THE TREATMENT OF LATERAL CURVATURE OF THE SPINE

BERNARD ROTH.

SECOND EDITION

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THE TREATMENT

OF

LATERAL CURVATURE OF THE SPINE.

FRONTISPIECE.

NOTE.—ALL SIX *photographs of Case I. were taken the same morning* BEFORE *commencing treatment. Photographs* 1, 2, *and* 3 *represent the "habitual" posture of the patient; and photographs* 4, 5, *and* 6 *represent the "best possible" posture of the same patient after she had been so placed by the Author. This improved posture could only be maintained for the second or two required for taking the photographs.*

To Dr J. E. Goldthwait
from the author
Bernard Roth
Sept 5. 1899

THE TREATMENT

OF

LATERAL CURVATURE

OF

THE SPINE

WITH

APPENDIX

GIVING AN ANALYSIS OF 1000 CONSECUTIVE CASES TREATED BY POSTURE AND EXERCISE" EXCLUSIVELY (WITHOUT MECHANICAL SUPPORTS).

BY

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SECOND EDITION

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PREFACE

TO THE SECOND EDITION.

My Publishers having asked me to issue a second edition of my work on the Treatment of Lateral Curvature of the Spine which was out of print, I thought it best to entirely re-write and re-arrange it, hoping to make it of more practical use to medical men desirous of carrying out the rational treatment of this deformity. I have embodied in this edition further experience gained in the ten years since my book was published. Frequent reference is made to the Appendix, which gives an analysis of One Thousand Consecutive Cases of Lateral Curvature of the Spine treated by "Posture and Exercise" exclusively, upon which I read a short paper at the Montreal Annual Meeting of the *British Medical Association* in 1897. The number of illustrations have been more than doubled, and Plates I. and II., now given for the first time, to illustrate the degrees of osseous—*i.e.*, incurable—deformity of the ribs and vertebræ, will, I hope, add to the utility of the book.

BERNARD ROTH.

38, Harley Street,
Cavendish Square, London. W.
January 2nd, 1899.

PREFACE

TO THE FIRST EDITION.

ALTHOUGH my views on the prognosis and treatment of Lateral Curvature of the Spine have undergone considerable modification during the fourteen years I have been engaged in orthopædic practice, this monograph is mainly based on the article "Lateral Curvature of the Spine" which I contributed to Mr. C. Heath's "Dictionary of Practical Surgery," 1886; on the papers published in the *British Medical Journal*, "The Treatment of Lateral Curvature of the Spine," *May* 13*th*, 1882; "Two Hundred Consecutive Cases of Lateral Curvature of the Spine treated without Mechanical Supports," *October* 31*st*, 1885; and "Scoliosiometry, or, An Accurate and Practical Method of Recording Cases of Lateral Curvature of the Spine," *October* 27*th*, 1888; and on the paper read before the Clinical Society (*April* 13*th*, 1883), "A Case of Lateral Curvature of the Spine, illustrating its Treatment without the Use of Mechanical Supports" (vol. xvi. Clin. Soc. Trans., 1883).

BERNARD ROTH.

February, 1889.

TABLE OF CONTENTS.

	PAGE
Definition of Lateral Curvature of the Spine (Scoliosis)—Sex	1
Age	2
Causes—Position of Writing—Congenital Malformation	3–8
Classification: I. Postural Class or Stage; II. Osseous Class or Stage—C, S, O, S, S, and S Lateral Curvatures	8–10
Antero-posterior Curvatures—"Gorilla" and "Passed through the Mangle" Types	10–11
Method of recording the Amount of Osseous Deformity when present in a Case of Lateral Curvature—Scoliosiometer	11–20
Pain or Backache	20–21
Flat-foot associated with Lateral Curvature	21–23
Relaxed or Over-extended Condition of the Elbow-joint	23
Author's Method of Examination for Lateral Curvature	24–28
Treatment	28–30
(*a*) Re-education of the Patient's Muscular Sense as to an Erect or Improved Position	30
(*b*) Improved Position to be maintained at all Times, while sitting or standing	30–36
(*c*) Attention to Dress	36–37
(*d*) Systematic Training of the Spinal and Other Muscles, including the Development of the Thorax	37–43
First Prescription of Medical Gymnastic Exercises	38–39
Second ,, ,, ,, ,, ,,	40–43
Duration of the Treatment under the Personal Daily Supervision of the Surgeon	43

PAGE

(*e*) Attention to General Health 43–44

Treatment of Pain or Backache. 44

(*f*) Subsequent Home Treatment to prevent Relapse in the Improvement or Cure that has been obtained by the Surgeon 45–48

Home Prescription 45–48

The Treatment of Flat-foot 48–52

Duration of the Author's Treatment of Lateral Curvature by "Posture and Exercise"—Statistics from the 1000 Cases in the Appendix 52–53

Result of the Author's Treatment of Lateral Curvature by "Posture and Exercise" 53–57

Illustrative Cases, I. to VIII. 57–80

Summary of Prognosis and Treatment. 80–82

Appendix—A Series of One Thousand Consecutive Cases of Lateral Curvature of the Spine (Scoliosis) which were under the Author's Treatment by "Posture and Exercise" in Private Practice from July 27, 1885, to November 24, 1892 83–141

CASE I. (*see page* 58), *all six Photographs taken the same day, previous to the commencement of Treatment.*

FIG. 1.

FIG. 2.

FIG. 3.

"HABITUAL" POSTURES.

FIG. 4.

FIG. 5.

FIG. 6.

"BEST POSSIBLE" POSTURES.

(*The Patient placed by the Surgeon.*)

FIG. 7.

A GIRL, AGED 7 YEARS, WITH SEVERE OSSEOUS LATERAL CURVATURE OF THE SPINE, IN THE "HABITUAL POSTURE."

FIG. 8.

THE SAME PATIENT AS FIG. 7, WHEN PLACED IN THE "KEYNOTE" POSTURE

(*see page* 26).

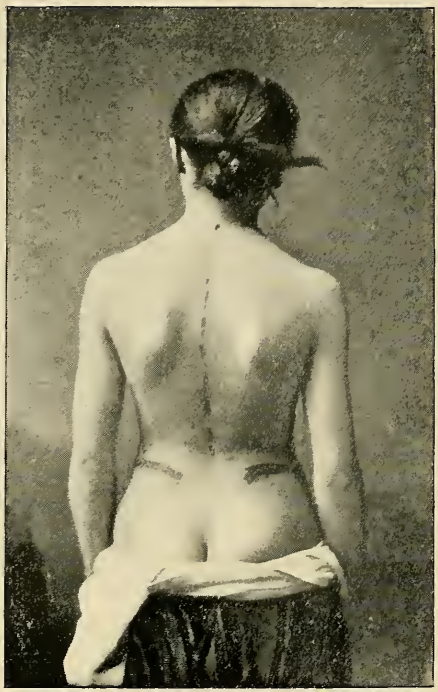


Fig. 26.

Fig. 29.

Fig. 30.

FIG. 31.

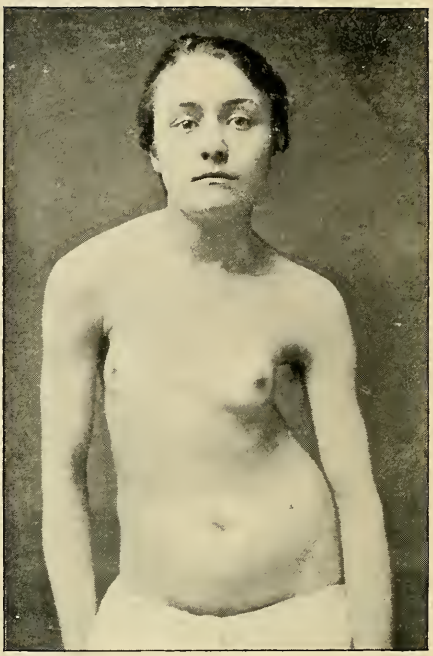


FIG. 32.

FIG. 33.

FIG. 34.

FIG. 35.

FIG. 36.

FIG. 37.

THE TREATMENT OF LATERAL CURVATURE OF THE SPINE.

Definition.—Lateral Curvature of the Spine (Scoliosis) is a deformity which is characterised by lateral deviation and distortion or rotation of the spinal column, nearly always accompanied by more or less exaggeration or diminution of the normal antero-posterior curves.

An Appendix at the end of this book gives the particulars of 1000 consecutive cases of Lateral Curvature which have been under the writer's treatment in private practice, from June 27th, 1885, to November 24th, 1892, and are exclusive of a previous series of 200 cases, a paper on which was read at the annual meeting of the British Medical Association in 1885.

Sex.—Out of the 1000 cases in the Appendix there are 122 males and 878 females. Messrs. Bradford & Lovett, in their "Orthopædic Surgery," 1890, have collected 2342 cases of Lateral Curvature, of which 363 were males and 1979 females—that is, a percentage of 15·5 males to 84·5 females, which is to be compared with my percentage of 12·2 males to 87·8 females. The much larger proportion of girls than of boys afflicted, is due to the fact that girls and women, in addition to being much handicapped by their dress, do not have, as a rule, one-fourth of the amount of physical exercise, such as cricket, football, hockey, etc., allowed to and enjoyed by boys and men. The muscles of girls either never develop as they ought, or become weak; although they sit no worse than boys at their lessons, they have not sufficient strength to hold themselves erect, and to restore the equilibrium of their curved backs out of school hours. At the onset of puberty their development throws a greater strain on their health

and strength than is the case with boys. I frequently observe in young women lineæ albicantes—*i.e.*, more or less red-coloured oblique fissures in the skin on the outer aspects of the thighs and buttocks, and sometimes even transverse similar fissures of the skin in the loins, caused by the very rapid growth of the underlying tissues at puberty, outstripping the growth of the skin, which gives way and partially splits; but I have never seen a similar phenomenon in young men, and this I attribute to the fact that boys do not develop so rapidly as girls do at the onset of puberty. Girls at that age usually put on such increased weight, that, although, according to the tables of the average weights of the two sexes, boys up to the age of twelve years are heavier than girls at this age, girls increase so rapidly that they are heavier than boys of similar age, until about sixteen years, when boys again take the lead until their greater weight and height are established.

Age.—Where possible I have noted the age when the deformity was sufficiently marked to have been noticed by the friends, and this is best given in the form of the following table, which has been extracted from the Appendix :—

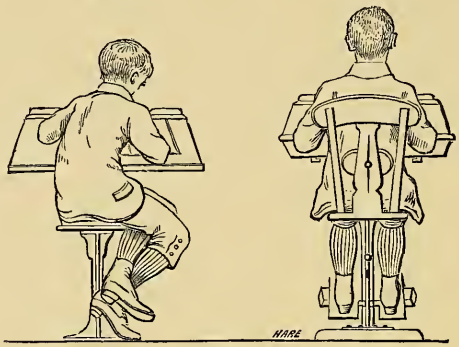
Age.	Number of Cases developed Lateral Curvature.	Number of Cases came under the Writer's Treatment.
1 year old	6	0
2 years „	5	1
3 „ „	6	3
4 „ „	9	5
5 „ „	24	10
6 „ „	34	23
7 „ „	55	32
8 „ „	46	31
9 „ „	50	40
10 „ „	89	49
11 „ „	94	55
12 „ „	107	71
13 „ „	117	79
14 „ „	103	111
15 „ „	84	93
16 „ „	69	92
17 „ „	25	66
18 „ „	19	37
19 „ „	10	31
20 to 29 years old	37	121
30 „ 39 „ „	10	34
40 „ 49 „ „	1	6
50 „ 76 „ „	0	10

The average age of the 1000 cases is 12·32 years for the commencement of the deformity, and 15·65 years for the age they came under my treatment. It will be seen that 897 cases (*i.e.*, 89·7 per cent.) commenced to develop Lateral Curvature between the ages of five and seventeen years, and that more than one-half—*viz.*, 594 (*i.e.*, 59·4 per cent.)—commenced between the ages of ten and fifteen years. Arranging them in another way, there were 50 cases under six years old, 274 cases between six and ten years old, 505 cases between eleven and fifteen years old, 136 cases between sixteen and twenty years old, and 35 cases above twenty-one years old.

Causes.—Lateral Curvature of the Spine is induced, in the large majority of cases, by weakness of the spinal muscles, combined with long-continued sitting or standing in stooping or relaxed positions, such as standing on one leg, sitting, writing, and reading with the trunk leaning or twisted to one side (see figs. 1 and 3), or with the thighs crossed. *The position of writing*, as generally practised, is, more frequently than anything else, an initial cause of most cases of Lateral and other curvatures not due to diseased bone or Infantile Paralysis. For many years past I have made it a rule, when examining for Lateral Curvature, after having noted the kind and degree of curvature present, to let the patient sit down and write his or her name, and to observe the posture then assumed: nine times out of ten, the patient will have placed himself or herself in a posture corresponding with the form of the curvature, except that usually it is highly exaggerated. In most early cases, where, as we shall see later on, the whole spine is usually convex to the left, this is found to be exactly the posture of writing; in severer (*i.e.*, more advanced) cases, where the usual type is to have the dorsal (upper) curve with convexity to the right, the patient in writing generally raises the right shoulder, and this to a far greater degree than in the ordinary posture of the Lateral Curvature. This vicious posture during writing is due to the unfortunate custom of teaching a slanting handwriting from left

to right upwards obliquely, whereas the natural direction of the handwriting ought to be really in the opposite direction, as any one will recognise by sitting perfectly erect with his hands symmetrically placed on the desk, and then attempting to write without screwing the right

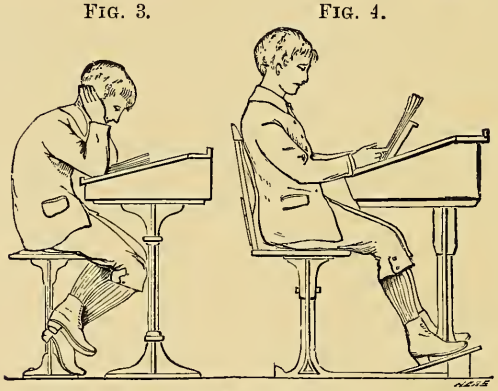
FIG. 1. FIG. 2.



WRITING.

Faulty position at an ordinary desk. Proper position at Glendenning's Patent Adjustable Desk.

FIG. 3. FIG. 4.



READING.

Faulty position at an ordinary desk. Proper position at Glendenning's Patent Adjustable Desk.

hand round or twisting the body: I have therefore been glad to see that, in the so-called "reformed" handwriting, children are taught to make the letters vertical or even sloping the other way—*viz.*, from right to left upwards. In 231 of the 1000 cases of the Appendix no assignable cause could be made out, whilst the causes of the remaining 769 cases are best given in the form of the following table:—

CAUSES OF LATERAL CURVATURE OF THE SPINE.

Hereditary			297 cases
Rapid growth			203 „
Delicate:—			
Always delicate	108		
Delicate	43		
Very delicate	19		
General weakness	6		
		176	„
After acute fevers:—			
Scarlet fever	18		
Whooping cough	14		
Measles	7		
Typhoid fever	6		
Influenza	5		
Diphtheria	3		
Acute rheumatism	2		
Severe fever	2		
Low fever	1		
Dysentery	1		
		59	„
Lung affections:—			
Pneumonia	20		
Asthma	8		
Weak lungs	5		
Bronchitis	2		
Pleurisy	3		
Empyema	1		
Phthisis	1		
Hay fever	1		
		41	„
Born in the Tropics:—			
In India	25		
In the West Indies	2		
		27	„
Nerve diseases:—			
Neurotic (hysteria)	10		
Infantile paralysis	4		
Other nerve diseases	10		
		24	„
Education:—			
Violin-playing	8		
Over-study	4		
Piano (8 hours daily)	2		
		14	„
Premature birth		11	„
Eye affections		10	„
One of twins		8	„
Elderly parents		5	„
Miscellaneous:—			
Very tall (above 6 feet)	3		
Rickets	2		
Congenital dislocation of hip	2		
Rheumatoid arthritis	1		
Abscess, jaundice, and torticollis	3		
		11	„

117 out of these 769 cases had apparently two causes predisposing to the deformity. It will be observed that 500 cases (50 per cent. of the whole 1000 cases) were attributed to hereditary tendency (297 cases) and to rapid growth (203 cases). It is interesting to note that 211 cases were related to one another, either as brothers and sisters, parents and children, or as first cousins. There are two sets of four members of the same family, who were scoliotic—*viz.*, cases Nos. 603, 620, 621, and 641 (three sisters and one brother), and cases Nos. 287, 294, 296, and 310 (three sisters and a cousin). If we add together the 176 cases who were delicate, the 59 cases debilitated by acute fevers, the 41 cases following lung affections, and the 27 cases born in the Tropics, we total up 303 cases (30·3 per cent.), which were directly due to a general weakness of the muscular system; and if to these are added the 203 cases attributed to "rapid growth," which always presupposes a general ill-development of the muscles, we find that upwards of 50 per cent. (exactly 506 cases) suffered from muscular weakness. Again, want of development of the muscles is always associated with a corresponding weakness or softness of the bones to which they are attached. Mr. Ernest Payne, Honorary Skiagraphist to the Royal Alexandra Children's Hospital, Brighton, has repeatedly taken X-ray photographs of my scoliotic patients attending the Orthopædic Department of that hospital, but up till now he has never been able to obtain a well-defined picture of the curvature showing the rotation of the bodies of the vertebræ; he attributes this to the vertebræ being more transparent to the X-rays in patients afflicted with Lateral Curvature, whereas, in straight-backed individuals, he has no difficulty in obtaining a good photograph of the vertebræ. This is an interesting fact, and I should like to have it confirmed by other X-ray photographers. Rickets is frequently a cause of Lateral Curvature in the very young children of the poorest classes. The very small percentage attributed to rickets in my 1000 cases, is due to the fact that these patients belonged chiefly to the middle and

wealthy classes and included no hospital cases. It will be seen that Infantile Paralysis is credited with only 4 cases of Lateral Curvature; this is not quite correct from a statistical point of view, because I left out of the 1000 series, all severe cases of Infantile Paralysis with useless or almost useless limbs; these cases have such complicated deformities, that it did not seem right to include them with ordinary Lateral Curvature.

Inequality in the lengths of the lower extremities as a cause of Lateral Curvature is conspicuous by its absence, and I believe this cause of Scoliosis has been much exaggerated, although the great shortening that occurs in long-standing hip-joint disease frequently induces Lateral Curvature; here again I did not include in my 1000 series any cases of Scoliosis complicating or following hip-joint disease.

Playing the violin in the usual standing position has no doubt contributed to bring on Lateral Curvature in many cases, but only 8 cases were solely attributed to that accomplishment. Some anomalous cases of Lateral Curvature may be directly due to *congenital malformation of the individual vertebræ*, and although up to the present time, such cases have not yet been diagnosed in the living patient, it is quite possible they will be recognised in future by means of further improvements in X-ray photography. Figure 5 is a drawing I made of a pathological specimen of Lateral Curvature in the museum of the General Hospital at Vienna. It has been described by the celebrated anatomist, Rokitansky, who found it while dissecting the body of a young man. In this specimen of the vertebral column, the fifth and sixth dorsal vertebræ are ankylosed together, and have only one left transverse process between them (*a*), while there is an extra wedge-shaped half-vertebra interposed on the left side between the eleventh and twelfth dorsal vertebræ (*b*), and another similar half-vertebra on the same side between the first and second lumbar vertebræ (*c*). It can be easily understood how extremely difficult it would have been to have diagnosed the real cause of

this case of congenital Lateral Curvature in the living patient.

Classification.—The usual history given is that the mother has noticed one shoulder-blade or one hip-bone (iliac crest) beginning to grow out in a child, very often a girl at the onset of puberty; frequently the dressmaker is the first to direct attention to the fact that measurements are different on the two sides of the trunk, or that a dress is a misfit on one side, although it has been made perfectly symmetrical. The family medical man is called in: generally he does not strip the girl to below the hip-bones (iliac crests), and then tells her to bend the trunk forwards; or, as I have several times been informed, the doctor examines the patient in bed without even having the night-dress or chemise removed, simply passing his hand down the back outside the article of dress. If there is no decided or marked irregularity of the back when examined in this haphazard way, the family doctor too often assures the anxious mother that the patient "will grow out of it" and that nothing special need be done, except perhaps lying down for one or two hours daily (the very worst advice he could have given) and the use of dumb-bells, or so-called calisthenic exercises. I am constantly hearing this story and its numerous variations, when examining a case of severe Lateral Spinal Curvature, which has developed in the course of one or more years after the above-mentioned verdict of the family doctor. It is, however,

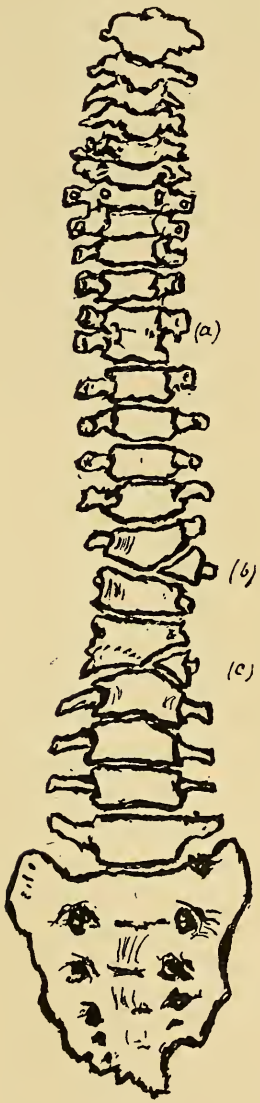


FIG. 5.

precisely at the time when there is no bony deformity that complete cure is possible. Before Lateral Curvature can occur with osseous deformity, it must gradually pass through many intermediate stages, from the time the patient first began to assume a temporary vicious position of the trunk. Dr. Oscar Witzel, in Gerhardt's "Handbuch der Kinder-Krankheiten, 1887," very ably shows that every pathological form—that is, osseous deformity of the spinal column—is preceded by a pathological posture, in just the same way that the normal osseous form of the spine in the adult is the result of the habitual postures of the individual during the years of growth from infancy. Most surgeons are now agreed that, in Lateral Curvature of the Spine, "*osseous*" deformity is always preceded by so-called "*postural*" deformity: as soon as osseous deformity is present, not only do the individual vertebræ become wedge-shaped and misshapen with the attached ribs, but the actual bony fibres or spiculæ of the spongy tissue of the bodies of the vertebræ participate in the deformation, and show in section, from above down, a whorl or twisting, corresponding to the rotation deformity of the whole adjacent group of vertebræ. Some surgeons still deny that Lateral Curvature exists unless associated with osseous deformity of the vertebræ and ribs, and they speak and write about "weak spines" which "frequently pass into and become cases of confirmed Lateral Curvature." However, when osseous deformity has set in, the case is now acknowledged to be incurable to that extent by all or most surgeons. Cases with osseous deformity differ from one another according to the degree and the various forms of this deformation. I therefore divide all cases of Lateral Curvature into two large classes, quite irrespective of their causation and forms: (I.) *Postural class or stage—viz.*, those without any osseous deformity of the ribs and vertebræ; and (II.) *Osseous class or stage—viz.*, those with osseous deformity which may be conveniently subdivided for clinical purposes into slight, moderate, severe, and extreme, according to the degree of osseous deformity

present. It will be readily understood that, in any given case of osseous Lateral Curvature, the ribs and dorsal vertebræ may exhibit slight osseous deformation with severe osseous deformity of the lumbar vertebræ or *vice versâ*.

There are six different well-marked forms of Lateral Curvature, and I attach to each the number of each variety in the 1000 consecutive cases given in the Appendix.

A. Curvatures with the whole convexity to the left (ordinary letter C), 523 cases—*viz*., 52·3 per cent.

B. Curvatures with double curves, the dorsal (upper) curve being convex to the right and the lumbar (lower) curve convex to the left (reversed letter Ƨ), 329 cases —*viz*., 32·9 per cent.

C. Curvatures with the whole convexity to the right (reversed letter Ɔ), 72 cases—*viz*., 7·2 per cent.

D. Curvatures with double curves, the dorsal (upper) curve being convex to the left and the lumbar (lower) curve convex to the right (ordinary letter S), 45 cases —*viz*., 4·5 per cent.

E. Curvatures with triple curves, the highest and lowest curves being convex to the left and the middle curve convex to the right (ordinary Greek letter Ϛ), 28 cases—*viz*., 2·8 per cent.

F. Curvatures with triple curves, the highest and lowest curves being convex to the right and the middle curve convex to the left (reversed Greek letter Ϛ), 3 cases —*viz*., 0·3 per cent.

The *normal antero-posterior curves of the Spine* are nearly always affected in Lateral Curvature, causing the patient to stoop; in many cases the whole spine is convex posteriorly, with disappearance of the lumbar hollow, which becomes convex instead of concave posteriorly; the result is that the head projects forwards, the anterior chest, walls become flattened and the abdomen becomes unduly prominent. This typical stoop, which is so frequently associated with Lateral Curvatures, has been described by me for the last eight or nine years as the "*gorilla*" *type* of the antero-posterior curves, on account of its similarity to the normal shape of the ourang-outang and the gorilla.

The "gorilla" type is sometimes so severe, that it tends to conceal the presence of Lateral Curvature, and I have often been unable on account of this to determine the form of the Lateral Curvature on first inspecting a patient's back.

Another modification of the antero-posterior curves of the spine, occurs, with or without obliteration of the lumbar hollow, with such an approximation of the anterior and posterior walls of the thorax, that the trunk appears to have been flattened from before backwards, and this I have for some years described as "*passed through the mangle*" *type.* Patients, with the "passed through the mangle" type of stoop, often look as if they were good chested when observed in front, but the contraction of the chest-cavity is perceived at once if they are inspected sideways. The above two types are sometimes associated in the same individual, when the result is most distressing; yet even in such a case, placing the patient in the best possible posture will often, not only remove the undue prominence of the abdomen, but also enlarge and unflatten the thorax.

Method of recording the amount of osseous deformity when present in a case of Lateral Curvature.—I attach the greatest importance to recording the presence or absence of osseous deformity in Lateral Curvature. If osseous deformity is present, to that extent the case is incurable; and as far as I know, no patient has ever been shown at a recognised medical society, *before* treatment with slight or severe osseous deformity, due to the scoliotic torsion of the vertebræ, and *exhibited again after* treatment, with disappearance of this same bony deformation. I still consider the method of *Scoliosiometry* I first described in the *British Medical Journal* of October 27th, 1888, as the most satisfactory, and at the same time the simplest and most rapid, for recording the amount of osseous deformity present in any given case. The only apparatus required, is a simple piece of tin tape, which, when rolled up round an ordinary yard tape measure, can easily be carried in the waistcoat pocket. The *Scoliosiometer* is made of pure tin, twenty inches long, five-eighths of an inch wide,

and about one-twentyfifth of an inch thick (fifty centimetres long, 1·5 centimetres wide, and one millimetre thick), and can be obtained from the surgical instrument makers, Mayer & Meltzer, of 71, Great Portland Street, London, W. *The scoliosiometric tracing of the ribs posteriorly* is taken as follows: The patient, with feet together and the knees extended, flexes the trunk as far as possible, the arms being allowed to hang down loosely. The lower angle of the left shoulder-blade is felt, and, fixing one end of the metal tape with the left hand at that point, the tape is carefully moulded close to and over the left ribs, across the spine, over the right ribs to the lower angle of the right shoulder-blade, which is likewise to be carefully felt for. With a copying pencil, the metal tape is marked opposite the dorsal spine, and is then carefully removed, upper edge downwards, on to a sheet of quarto-size paper, and a tracing drawn inside the concavity of the curved tape, marking on the paper the point where the tape touched the spine. The pencil line is afterwards inked, and the tracing cut out and folded down the middle (see figs. 24 and 27) opposite the point marking the spine, and we have now an accurate and permanent record of the present state of deformity of the ribs posteriorly. In some cases, the most marked deformity of the ribs posteriorly, is one, two, or more fingers' breadth, or even a hand's breadth below the lower angle of the shoulder-blades, and if the tracing has been taken at that level, this fact is noted on the tracing. In cases of extreme osseous deformity I have found it sometimes advisable to take the tracing posteriorly at a higher level, that is, from the top of the left axilla to the corresponding place on the right, including thus a portion of each shoulder-blade. When this is done, the metal tape should be marked where it touches the inner border of each shoulder-blade, and this copied on the tracing, as taken in fig. 21, page 62. Unless this modification is adopted—that is, taking the tracing from between the axillæ, instead of from between the lower angles of the shoulder-blades—tracings of the

ribs posteriorly, in extreme cases of deformity, are unsatisfactory, too little of the ribs posteriorly being given when the tracing simply extends from the lower angle of one shoulder-blade to that of the other, from the more or less increased immovability and displacement of the shoulder-blades, as can be seen in fig. 21, where very little of the right ribs posteriorly would be shown, if the tracing had stopped on reaching the right shoulder-blade.

Similarly a record should be taken of the loins, usually midway on each side between the last ribs and the iliac crests—that is, opposite the third lumbar vertebra—marking the tape as before, where it crosses the spine (see figs. 22 and 28). A little more dexterity is required if the patient is stout, or the erectores spinæ muscles are bulky, as, if too much pressure is employed in moulding the tape to the contour of the loins, the muscles and soft tissues will cause the tape to spring up and alter its shape when the pressure is removed, and this would vitiate the record. This outline of the erectores spinæ muscles is then transferred to the paper in the same way as that of the ribs posteriorly, not omitting to mark the position of the third lumbar vertebra. Although this method of recording the osseous deformity of the ribs posteriorly (*i.e.*, the amount of rotation of the dorsal vertebræ), and of the lumbar vertebræ, has taken rather long to describe, it enables a surgeon to obtain a correct and reliable record of a case of osseous Lateral Curvature, in less than a minute, after a little practice. Several writers on Lateral Curvature of the Spine have employed a metal tape ; but their records are of little use, because the tracings were taken while the patient was erect, when the real amount of osseous deformity is more or less masked by the shoulder-blades, as far as the ribs posteriorly are concerned, and by the contraction of the loin muscles with reference to the lumbar vertebræ.

When there is marked osseous deformity of the *ribs anteriorly*, especially in cases of *pigeon-breast*, a tracing can be easily taken from one axilla to the other, either on a level with the nipples, or, where the mammæ are developed, just below or above them, marking on the

tape, the position of the nipples and the mid-sternum. In taking this anterior tracing, the patient should be made to extend the spine backwards as much as possible, with the thorax well thrown forwards; and he should endeavour to press against the tape whilst it is being moulded to the anterior walls of the thorax. My friend, Dr. R. Tait McKenzie, of McGill University, Montreal, has invented an ingenious instrument for directly recording on paper, but one-fourth the real size, exactly the same tracings as I have just described (see *British Medical Journal*, Oct. 9th, 1897). I have employed this method of recording cases of Lateral Curvature for upwards of fifteen years, and have found it indispensable. By its means, I have been able to show gradually increasing osseous deformity in cases of Lateral Curvature due to severe Infantile Paralysis of the spinal muscles, than which there are no worse cases to treat, and also in bad cases of Lateral Curvature after Empyema, which go on from bad to worse, on account of the irresistible force of the cicatricial contractions of the lung-cavity. I have also, by means of these tracings, demonstrated further increase of the osseous deformity, where my advice has not been followed, and the patient has returned to me after an interval of months or years. I am convinced that, if this method of recording cases of Lateral Curvature was generally adopted, few surgeons would continue to treat them by steel, poroplastic, or other supports, except in those rare cases due to more or less complete paralysis of the spinal muscles. These tracings enable surgeons to recognise how the osseous deformity of the ribs and vertebræ gradually progresses from bad to worse, in spite of the most complicated and expensive spinal supports. They would prove that the only rational and really successful treatment of Lateral Curvature, and one which is far more rapid than any other yet offered to the profession, is that which I advocate—that is, re-education of the muscular sense of the best possible position, and methodical exercises of the muscles, to enable the patient to maintain this improved position without effort;

or, to put it more shortly, "treatment by posture and exercise."

The amount of osseous deformity is classified, as already stated, as *extreme* (*e*), *severe* (*s*), *moderate* (*m*), *a trace* (*t*), and if the ribs and erectores spinæ are perfectly symmetrical on the two sides when the patient's trunk is well flexed, *absence of osseous deformity* (*o*) is diagnosed, provided the ribs anteriorly are also symmetrical when the patient stands fully erect.

In Table I., I give the amount of osseous deformity of each of the 523 cases of C Lateral Curvature in the Appendix.

TABLE I.

DEGREE OF OSSEOUS DEFORMITY OF THE 523 CASES OF C SCOLIOSIS.

Left Ribs Posteriorly.	Left Erector Spinæ Muscle.	
o	*m*	117
t	*m*	76
m	*m*	71
o	*t*	71
o	*o*	66
m	*s*	28
t	*t*	24
o	*o* Right ribs anteriorly too prominent	15
t	*s*	12
o	*s*	9
t	*o*	9
m	*t*	6
m	*o*	6
s	*s*	5
s	*m*	5
s	*t*	2
e	*e*	1
		523 Cases.

Explanation. { *e* = extreme. *t* = trace. *s* = severe. *o* = no osseous deformity. *m* = moderate.

The first line of Table I., "*o*—*m*—117," means that 117 cases of C scoliosis had *no* osseous deformity of the left ribs posteriorly, but that there was *moderate* osseous deformity (*i.e.*, undue prominence) of the left erector spinæ muscle, caused by the torsion of the lumbar vertebræ, which are convex to the left. The second line, "*t*—*m*—76," indicates that 76 cases had *a trace* of osseous deformity of the left ribs posteriorly, caused by the torsion

of the dorsal vertebræ, which are also convex to the left, and *moderate* osseous deformity of the lumbar vertebræ. The fifth line, "*o*—*o*—66," means that, although the whole spine was habitually convex to the left in 66 cases, there was *no* osseous deformity of the dorsal and lumbar vertebræ. The sixth line, "*m*—*s*—28," shows that 28 cases had *moderate* osseous deformity of the left ribs posteriorly, and *severe* osseous deformity of the lumbar vertebræ. The last line, "*e*—*e*—1," shows that only one case of C lateral curvature had *extreme* osseous deformity, both of the left ribs posteriorly and of the lumbar vertebræ. When I speak of slight, moderate, severe, or extreme osseous deformity of the left ribs posteriorly, I also imply a corresponding osseous deformity shown by a sinking or thrusting forwards of the corresponding right ribs posteriorly.

TABLE II.

DEGREE OF OSSEOUS DEFORMITY OF THE 329 CASES OF S SCOLIOSIS.

Right Ribs Posteriorly.	Left Erector Spinæ Muscle.	
m	*m*	67
t	*m*	52
s	*s*	44
s	*m*	34
m	*s*	24
o	*m*	20
t	*s*	11
t	*t*	11
e	*s*	10
m	*t*	9
s	*e*	8
o	*t*	8
e	*e*	6
e	*m*	4
m	*e*	4
m	*o*	4
s	*t*	3
o	*s*	3
t	*o*	2
e	*m*	1
e	*o*	1
s	*t*	1
s	*o*	1
o	*o*	1
		329 cases.

Explanation. { *e* = extreme. *t* = trace. *s* = severe. *o* = no osseous deformity. *m* = moderate.

It will be observed that there was only one case out of these 329 ⊇ lateral curvatures without any osseous deformity ("*o*—*o*—1"); whereas, in Table I., 66 out of 523 cases of C Lateral Curvatures presented no osseous deformity; also that 197 cases of C Lateral Curvatures had no osseous deformation of the ribs posteriorly, and that in 313 of these same C Lateral Curvatures there is proportionally more lumbar than dorsal (ribs posteriorly) osseous deformity. These facts constitute, in my opinion, a strong argument for the view that most cases of ⊇ scoliosis commence as cases of C scoliosis, and that those orthopædic surgeons are correct who maintain that the lumbar curvature is the first to develop in the large majority of all classes of Lateral Curvature. This is also confirmed by the fact that, in 32 cases of ⊇ scoliosis, there is no osseous deformity of the right ribs posteriorly, against only 9 cases of ⊇ scoliosis with no osseous deformity of the lumbar vertebræ. This is, besides what would be expected *a priori* on anatomical grounds, because the lumbar vertebræ are far more mobile than the dorsal vertebræ.

TABLE III.

DEGREE OF OSSEOUS DEFORMITY OF THE 72 CASES OF ⊃ SCOLIOSIS.

Right Ribs Posteriorly.	Right Erector Spinæ.	
m	*m*	14
o	*o*	12
s	*m*	6
m	*t*	6
t	*m*	6
m	*o*	4
t	*t*	4
s	*t*	3
s	*o*	3
s	*s*	2
m	*s*	2
o	*m*	2
o	*t*	2
t	*o*	2
s	*e*	1
m	*e*	1
e	*t*	1
Right ribs anteriorly too prominent: *o*	*o*	1
		72 cases.

EXPLANATION. *e* = extreme. *s* = severe. *m* = moderate. *t* = trace. *o* = no osseous deformity.

TABLE IV.

DEGREE OF OSSEOUS DEFORMITY OF THE 45 CASES OF S SCOLIOSIS.

Left Ribs Posteriorly.	Right Erector Spinæ.	
o	*m*	10
m	*m*	7
t	*t*	5
t	*m*	4
s	*s*	3
s	*m*	2
o	*s*	2
m	*t*	2
o	*o*	2
s	*e*	1
e	*m*	1
t	*e*	1
m	*s*	1
s	*t*	1
s	*o*	1
	o	1
o	*t*	1
		45 cases.

Explanation. { *e* = extreme. *s* = severe. *m* = moderate.
t = trace. *o* = no osseous deformity.

Here, again, it is interesting to note, that, although 12 out of the 72 cases of C scoliosis have no osseous deformity, only 2 out of the 45 cases of S scoliosis have normal vertebræ; and that of the S scoliosis, 13 have only osseous deformity of the lumbar vertebræ, against 2 with only osseous deformity of the left ribs posteriorly. This also indicates the strong probability that C scolioses are often the early stages of S scolioses, and that the Lumbar Curvature is developed in most cases before the dorsal one.

In the next two tables, V. and VI., of triple Lateral Curvatures, although it is not indicated, most of the uppermost curvatures included one or more of the cervical vertebræ.

It is remarkable that not a single one of the above 31 cases of triple Lateral Curvature is without well-marked osseous deformity, proving them to be all in a later or more aggravated stage of development than the double or single Lateral Curvatures. It will help the reader to understand what I mean by the different degrees

TABLE V.

DEGREE OF OSSEOUS DEFORMITY OF THE 28 CASES OF S SCOLIOSIS.

Left Ribs Posteriorly. (*Above Scapula.*)	Right Ribs Posteriorly. (*Below Scapula.*)	Left Erector Spinæ Muscle.	
m	*s*	*s*	5
m	*m*	*m*	5
t	*t*	*m*	4
t	*m*	*m*	3
s	*s*	*m*	2
m	*s*	*m*	2
s	*s*	*s*	1
t	*s*	*s*	1
m	*m*	*s*	1
t	*s*	*m*	1
m	*s*	*t*	1
m	*t*	*m*	1
t	*t*	*t*	1
			28 cases.

Explanation.—*s* = severe. *m* = moderate. *t* = trace.

TABLE VI.

DEGREE OF OSSEOUS DEFORMITY OF THE 3 CASES OF S SCOLIOSIS.

Right Ribs Posteriorly. (*Above Scapula.*)	Left Ribs Posteriorly. (*Below Scapula.*)	Right Erector Spinæ Muscle.	
m	*e*	*e*	1
t	*s*	*t*	1
t	*m*	*o*	1
			3 cases.

Explanation. *e* = extreme. *s* = severe. *m* = moderate. *t* = trace. *o* = no osseous deformity.

of osseous deformity, by looking at the series of tracings of the ribs posteriorly, and of the erectores spinæ muscles, given in Plates I. and II. In Plate I., figs. 6, 7, 8, and 9 are all scoliosiometric tracings of the ribs posteriorly, taken according to my method, and have been reproduced the natural size, being facsimiles of those I took of Nos. 911, 985, 224, and 10 of the 1000 cases in the Appendix. Fig. 6 exhibits, at first inspection, scarcely any difference between the right and left ribs posteriorly; but on careful comparison, especially by the simple expedient of folding the paper along the dotted line drawn through the place where the tracing crossed the dorsal spine, it will be seen that the right ribs posteriorly,

are a *trace* more prominent than the left ribs posteriorly. In fig. 7, the *moderate* osseous deformity of the right ribs posteriorly is very evident; in fig. 8, the *severe*, and in fig. 9, the *extreme* deformity are only too self-evident. Before the ribs posteriorly can be so extremely deformed as in fig. 9, they must of necessity gradually pass through all the intermediate stages, from the time they were perfectly symmetrical, and began to show the earliest stage of osseous deformity as seen in fig. 6. Similarly, in Plate II., figs. 10, 11, 12, and 13 are scoliosiometric tracings of the loins taken opposite the third lumbar vertebra, and exhibit respectively, what I describe as a *trace of*, *moderate*, *severe*, and *extreme* osseous deformity of the lumbar vertebræ.

Pain or Backache.—Pain in the back, generally of the loins, or under or in the neighbourhood of one shoulder-blade, or between the shoulder-blades, is the first symptom observed in a large number of cases. The following is a summary of the backache experienced by the 1000 cases in the Appendix. In 11 cases there was *extreme* pain, in 230 cases *severe* pain, in 87 cases *moderate* pain, and in 148 cases *slight* pain; so that in 476 cases (47·6 per cent.), or in nearly one-half of the cases, there was more or less backache. I would mention case No. 261 as an example of *extreme* pain, where the son, a medical man, wrote to me that his mother "has suffered an incredible amount of pain from the deformity, which would seem to be of a neuralgic character, coming and going suddenly." The pain is in most cases, however, a dull aching, wearying, or bruised feeling; at times it is very sharp and acute, like ordinary neuralgia. I have frequently examined patients who complained of a pain like a red-hot iron being pressed into the spine, or like a sharp knife being plunged into the trunk. Most scoliotic pains are relieved by exercise, and strangely enough in many cases by lying down, in the same patients to whom movement gives relief. The backache is generally brought on or aggravated by sitting for any length of time at lessons, especially writing, sewing, or playing the piano, etc., or by attending church,

theatre, or concert. It will be observed that, in a bare majority of the cases in the Appendix (52·4 per cent.), there never has been any backache whatsoever. It may be stated generally that the amount of pain complained of, is seldom in proportion to the amount of deformity. Cases of extreme Lateral Curvature are sometimes seen where there is not, and never has been, any backache felt by the patient, although the health may have been affected in other ways, by indigestion, headache, shortness of breath, etc. On the other hand, life may have become almost unbearable on account of constant backache; and the symptoms almost assume those of so-called "spinal irritation," in cases where the curvature is but slight. It is, however, fortunate for the patient when pain in the back is an early symptom, because attention is then drawn to the spine, and a commencing Lateral Curvature detected which would otherwise have been overlooked, till the development of osseous deformity had progressed to such a degree that a non-professional eye would easily have recognised it, even through the dress.

Flat-foot.—I was one of the first surgeons to point out the extremely frequent association of flat-foot with Lateral Curvature of the Spine (see my paper in the *British Medical Journal* of May 13th, 1882). Flat-foot may be defined as a falling down or giving way of the normal arch of the foot, which may be so slight as almost to escape notice, except from the discomfort it causes, or be so severe that the whole tarsus presents as great a convexity inward as it ought to present a concavity, with the foot so everted that the internal malleolus almost touches the ground, while the outer border of the foot is raised, with the sole directed outward, as in some cases of infantile paralysis. Sir James Paget speaks of "the constant pain and weariness of the lower limbs associated with flat-foot. The feet are elongated, flat, low, without insteps; the heels are too little prominent, the plantar arches sunken, the ankles thick; the astragalus, navicular and inner cuneiform bones, are below their right level. The pains complained

of are those of the muscles and tendons, which are habitually overworked in the task of keeping the body erect when its proper bearings on its supports are disturbed." I consider this description is generally true of a severe case not due to infantile paralysis. Pain and much deformity are not always associated together; growing boys and girls approaching puberty, are frequently brought to me, complaining of severe pain in the instep, whose feet exhibit scarcely any deformity. Again, the severest cases of flat-foot, those due to infantile paralysis, frequently have no pain or discomfort in the feet, although sensation is perfectly normal. I find that all infants on commencing to walk are normally flat-footed —*i.e.*, without any tarsal arch; whereas after they have stood and run about a few months, and the leg-muscles have become developed, a perfect arch is formed. I have often been consulted by an anxious mother about her baby's feet when the child begins to run alone, the normal absence of a tarsal arch being often at first exaggerated by a pad of fat opposite the plantar aspect of the tarsus. I have always been able to reassure her, and to tell her that the feet would become arched in time and the adipose instep pad disappear; and the result has proved my prognosis to be correct. Mr. Le Gros Clark wrote: "In reviewing the action of the various muscles around the foot, it is obvious that their attachment is designed to preserve the plantar arch, and that such healthy condition must depend in great measure on the evenly balanced action of those muscles upon their several attachments. Thus the peronei and tibial muscles antagonise each other, and the expanded insertion of two of them into the tarsal bones, is very instrumental in preserving the transverse, as well as the antero-posterior arch." Although the bones of the instep are apparently so well supported by their ligaments and the tendinous prolongation of the muscles inserted in the sole, yet, as soon as these muscles shirk their work from weakness, undue strain is thrown upon the tarsal ligaments; and they gradually yield, accompanied by

more or less aching and pain, or none at all, according to the idiosyncrasy of the sufferer, just as is the case with Lateral Curvature. At first there is no osseous malformation, and so long as this is so, complete restoration to the normal is possible; but in time the articulating surfaces become altered in shape, the bones distorted, and the ligaments so shortened and thickened that, even with severe *brisement forcé* under anæsthetics, only a partial improvement is brought about. Flat-foot is therefore directly due to the weakness of the leg-muscles which are attached to the bones of the foot. Out of the 1000 cases in the Appendix, there are 149 (14·9 per cent.) with *severe* flat-foot, 416 (41·6 per cent.) with *moderate* flat-foot, and 256 (25·6 per cent.) with a *trace* of flat-foot. By *severe* flat-foot, I distinguish those cases where there is a more or less permanent damage to the arch of the foot, so that the deformity does not disappear altogether when the patient is made to stand on the toes with the heels raised; in *moderate* cases, and those with only a *trace*, the normal arch of the foot is restored when the patient raises the heel off the ground. I believe some surgeons would not agree with my diagnosis of a *trace* of flat-foot; but even after eliminating the latter, the 1000 cases in the Appendix show some 565, or 56·5 per cent., with well-marked flat-foot—cases which require special treatment of the foot deformity, if a satisfactory result is to be obtained. Every surgeon will admit the great importance of having good legs and feet to enable a patient to have a firm basis on which to develop a strong and straight spine.

Relaxed or over-extended condition of the elbow-joint.—A deformity, which, in my experience, is almost as often associated with Lateral Curvature as flat-foot, is a more or less relaxed condition of the ligaments of the elbow-joint, causing an over-extension of that articulation and popularly known as a "double" joint. In extreme cases of this deformation, the axis of the fore-arm is nearly 30 degrees beyond the prolonged longitudinal axis of the upper arm, when the patient fully extends the elbow.

This deformity of the elbow-joint is undoubtedly due to weakness of its flexor muscles.

Knock-knee is occasionally met with in Lateral Curvature patients, and is usually associated with more or less severe flat-foot.

Author's method of examination for Lateral Curvature of the Spine.—After obtaining a *history* of the patient's case, and ascertaining any probable predisposing causes of the deformity and an account of any *past treatment*, questions should be put concerning the present state of the patient's *general health*. In the large majority of cases, there is a history of this having been failing for some time past, and the friends explain that the patient is generally tired and easily knocked up by slight exertion, which he or she would have thought nothing of a few months or years previously. Scoliotic patients are very liable to catch cold on slight provocation. Many suffer from want of appetite, and frequently commence the day by taking scarcely any food for breakfast; time after time, I have found a scoliotic young lady's breakfast has consisted solely of a cup of tea and half a slice of dry toast, and this after fasting all night. These patients frequently suffer from indigestion, due to the vegetative existence they have been accustomed to lead, especially those who have been condemned by previous medical advisers to lie down for several hours daily in the hopes of straightening their weak and crooked backs. As might be expected, the circulation is languid in most cases; a far larger proportion suffer from chilblains in the winter than would be the case in an equal number of non-scoliotic individuals; the hands and feet are sometimes so cold and the circulation so stagnant, even in warm weather, that it would be easy to mistake them on first inspection for cases of Raynaud's disease. In girls and young women the state of the menses should be inquired into: many are irregular in their courses; others suffer from profuse menorrhagia, which, strangely enough, often ceases as soon as methodical exercise is employed, indicating that this condition was probably due to a form

of passive congestion of the uterus. Next, questions about the presence or absence of backache should be put (see page 20); and about school life, whether suitable sloping desks, or simply flat tables and benches, have been employed. The patient is now requested to undress, and as the proportion of the sexes afflicted with Lateral Curvature is more than seven females to one male, we will suppose she is a young woman; the boots should always be removed, and the petticoat or knickerbockers fixed by a safety-pin round the pelvis, well below the level of the iliac crests, so that the gluteal cleft is just visible. We will take it for granted that the legs are of equal lengths, or have been made so by a block placed under the shorter limb. The patient is placed with her back in front of the surgeon, with knees extended and the feet together. Here I may say, that surgeons who can draw ever so little, will find a rough outline sketch of the patient's back and spine, while in the habitual position, useful before proceeding further, and that the curve of the spine is more readily recognised, if the posterior spinous processes are marked from above, down, with a soft copying-ink pencil (see figs. 20 and 23). Those who cannot draw would probably find Dr. R. Tait McKenzie's scoliosiometer, previously mentioned, of use. After inspecting the patient *laterally*, noting whether there is little or much exaggeration of the normal antero-posterior curves of the spines (slight, moderate, or severe "gorilla" type), or even diminution of these same antero-posterior curves (slight, moderate, or severe "as if passed through a mangle" type), and *in front*, noting any inequality of the mammæ, etc., the trunk should be flexed as far as possible, the knees being kept extended and the arms allowed to hang down loosely, so that the scapular muscles are thoroughly relaxed. Now, the level of the ribs posteriorly, uncovered by the shoulder-blades, should be carefully examined for any inequality. In the second most common form of Lateral Curvature, with dorsal (upper) convexity to the right (reversed letter ƨ scoliosis), if there be any osseous deformity present, the right ribs

will be more or less unduly prominent, sometimes so slight that a good light and a well-trained eye are necessary to make out a difference on the two sides. Now a scoliosiometric tracing of the ribs posteriorly is taken, as has been already described on page 12: similarly, a record is taken of the loins, usually opposite the third lumbar vertebra. After this careful examination, which has included a record of any osseous deformity present, as well as of the ribs anteriorly, before allowing the patient to dress, it is essential to ascertain to what extent the spine can be restored to its normal position by a voluntary effort, with the help of the surgeon.

In cases of Class I.—*viz.*, "*Postural, or non-osseous stage*"—where there is no bony deformity of the ribs and vertebræ, this "best possible position" will be perfectly normal, with the shoulder-blades and hip-bones (iliac crests) symmetrical, the thorax well thrown out, the abdomen withdrawn from undue prominence, and the head erect (see Frontispiece Photographs, figs. 1 to 6, although this case had some osseous deformity).

In cases of Class II.—*viz.*, "*Osseous stage,*" the improvement effected will depend on the amount of bony deformity present. One arm directed and held upwards, and the other arm outwards, is frequently useful in helping to partially restore the symmetry of the trunk (see photographs, fig. 7 and fig. 8, which represent a girl, aged seven years, with severe Lateral Curvature, in the "*habitual*" posture [photograph, fig. 7] and the "*best possible*" posture [photograph, fig. 8]). Sometimes the best result is obtained by both arms being raised vertically by the side of the head, while avoiding undue elevation of the shoulder-blades, the elbows being either grasped above the head, or well extended upwards: at other times it is found that the desired result is obtained by grasping one wrist, both arms being extended upwards by the sides of the head. This best position of the patient's trunk and arms, for improving the form of the spine, is the "*keynote*" of the exercises to be practised during treatment.

A committee on Lateral Curvature of the Spine, appointed on March 11th, 1887, by the Clinical Society of London, and before whom I demonstrated the same patients both before and after treatment, reported that "*The amount of improvement which may be hoped for in any given case may not unsafely be gauged by the improvement which the patient can voluntarily effect in his or her position when first seen*" (see "Clin. Soc. Trans.," vol. xxi., 1888, p. 301). This is not quite correct: the committee should have qualified the sentence "*which the patient can voluntarily effect*" by the words "*directed or helped by the examining surgeon.*" The importance of placing the patient in the "best possible position" at the first consultation, is therefore evident, if a correct *prognosis* of the curvature is desired. The patient is generally only able to maintain this improved position by a great muscular effort, for a few seconds, during which she will feel as if she were more crooked than before. The muscular sense has become so perverted that the habitual position appears to her to be far more natural and straighter than the really erect or improved posture. A corroboration of this fact is given in cases of *wry-neck* (non-spasmodic torticollis): after a few days' methodical exercise, I divide the contracted sterno-mastoid tendons, when at first the patient will continue to hold the head in the habitual vicious oblique position; because that appears to him to be the erect position, and it will only be after three or four weeks' daily medical gymnastic treatment that he will be trained really to hold the head symmetrically, having recovered the normal muscular sense of such position. Even the eyesight becomes affected in long-standing wry-neck. I remember one young man on whom I operated, who for several weeks after the operation declared that, when he held his head vertically, everything he looked at seemed on the oblique and crooked—a remarkable example of the force of habit. It is always advisable before concluding the examination to ascertain whether the *dress* is too tight across the anterior thorax. This is best done

by trying on the underclothing, stays, dress, bodice, and outdoor jacket one after the other, while the patient is in the best possible posture, which is often most easily obtained by letting her stand with her back against the door, heels, sacrum, dorsum, and back of head touching it, and with the shoulders well thrown back. While in this position, her mother or friend should be requested to try to fasten her stays and clothes in front. In most cases, these will not meet for one or more inches, such great alteration and enlargement of the thorax anteriorly being temporarily effected by this simple device. This applies equally to male patients, the shirt-collar band, waistcoat, coat, and overcoat frequently not meeting for an inch or more, when the patient is placed thus with his back against the door. Finally, the stockings being removed, notice should be taken whether the patient is flat-footed or not (see page 21). After dressing, let the patient write her name in her usual sitting position, as described on page 3. This is a good opportunity for testing the *eyesight*, and to find out whether she can read at the normal distance.

TREATMENT.

Difference in the lengths of the legs.—Common sense suggests that inequality in the potential or practical lengths of the lower extremities is to be corrected by wearing a thicker sole on the shorter leg, whatever other treatment may appear to be indicated. Practically I find that a difference of a half-inch or less may be ignored, and a rough and easy test for measuring the lengths of the legs, if inequality is suspected, is to let the patient lie supine on the floor, with the hips and knees flexed and the soles close together on the ground: if the bared knees appear perfectly symmetrical in position, the surgeon may rest assured that, if there be any difference in the lengths of the lower extremities, it is less than half an inch, and may be ignored. If, however, one knee is markedly higher or more forward than the

other, then measurements should be taken in the usual way from the anterior superior iliac spinous process to the internal malleolus; if there is more than half an inch difference, obliquity of the pelvis will be noticeable in the standing position, and by pressing the fore-fingers into the soft tissues above the iliac crests on either side of the patient, this will be made easily apparent.

Of late years the implicit faith formerly placed in the treatment of Lateral Curvature of the Spine by steel and other spinal supports, or stays, has been gradually undermined; and even those who still adhere to the mechanical treatment of spinal deformities not due to diseased bone, attach more and more importance to its association with suitably prescribed gymnastics. Lateral and other Curvatures *due to paralysis of the spinal muscles*, when the patient is unable by a voluntary effort to maintain himself in an improved position for even a few seconds, are the only cases in which spinal supports may be of some use. In these paralysed backs, attempts should be made, although, more often than not, they fail, to prevent further increase of the osseous deformity; and in some few cases this is possible by the application of a well-made posterior spinal support, which is fixed by means of a strong leather pelvic band and shoulder-straps. This support will, however, have to be worn most probably for the remainder of the patient's life, because more or less disappearance of the spinal muscles is presupposed. It is to be understood that the support is worn with the sole idea that it may possibly prevent further increase of deformity and without any hope of its being curative, and it should be left off at night in bed. *Lying on the back*, or *on the prone couch*, for several hours daily, still almost universally prescribed by orthopædic and other surgeons, is perfectly useless as far as cure of the Lateral Curvature is concerned. If a limb with weak and flabby muscles were put into stiff splints and kept at rest for several hours daily, the muscles would naturally become weaker; and this is equally true of the spinal muscles.

The patient may lie on the back or prone for a few minutes at a time for the relief of pain, or when fatigued by exercise; but lying for longer periods does far more harm than good.

The treatment is based upon principles which may be taken under the following heads:—

(*a*) Re-education of the patient's muscular sense as to an erect or improved position.

(*b*) Improved position to be maintained at all times, while sitting or standing.

(*c*) Attention to dress.

(*d*) Systematic training of the spinal and other muscles, including the development of the thorax.

(*e*) Attention to general health.

(*f*) Subsequent home treatment to prevent relapse in the improvement or cure that has been obtained by the surgeon.

(*a*) *Re-education of the patient's muscular sense as to an erect or improved position.*—A patient, with confirmed Lateral Spinal Curvature, is so habituated to the crooked position, that considerable patience and perseverance are frequently required to convince him or her, that an erect or improved posture is really such and not an exaggeration of the deformity. The best way of commencing this re-education is for the patient to lie on the back in the best possible position, and while thus to practise slow breathing, the shoulders being kept well pressed back voluntarily. All the simple movements of the head (neck), arms, and legs can be practised in this position. A *hand looking-glass* as well as an ordinary wall mirror are useful, so that the patient may see and be convinced of the improved position. This re-education of the muscular sense for the improved or normal posture is to be kept in mind throughout the whole treatment.

(*b*) *Improved position to be maintained at all times, while sitting or standing.*—This best possible posture is always to be maintained while sitting, whatever the occupation of the moment may be: at meals, at the piano, while reading, writing, drawing, etc. It is most

readily obtained by sitting with the sacrum, loins, dorsum, and shoulders well supported against the back of the chair, which should be moulded to the normal shape of the spine, with a slight prominence to fill the hollow of the loins. Almost any ordinary chair can be made to answer the purpose, if a suitable cushion is used. Of recent years a school chair, named after a well-known eye-surgeon who unfortunately knew little about Lateral Curvature, has been much lauded, of which the back only extends to below the shoulder-blades: this is injurious, because, even for any one with a strong, healthy back, it is difficult to sit for any length of time in such a low-backed chair; how much more difficult for a weak-spined individual? The result is, that the school child ceases to lean against such an uncomfortable arrangement, and sits worse than before. An upright, well-padded dining-room chair often answers every requirement. In writing, the patient's trunk usually requires to be more vertical than for reading; and it is essential that not only the trunk, but also the arms should remain perfectly symmetrical. A sloping desk is absolutely required; and if the ordinary sloping handwriting is insisted upon, the paper should be placed obliquely upwards from left to right, and exactly in front of the patient. (See page 3 for further remarks about writing.) The *Glendenning adjustable modern school desk and seat*, manufactured by the North of England School Furnishing Co., Darlington (London agent Mr. Thomas Ison, 101, Hampstead Road, N.W.), will be found most beneficial for patients of school age, and even for many adults who have much writing to do. The advantage of this desk is that, while for writing the slope is at 15 degrees, for reading the lower portion of the writing-desk turns up, and gives a slope of 40 degrees, which has been found by eye-surgeons to be most restful for the eyes, which are by this device at the same distance from the top and bottom lines of a page of print (see figs. 1, 2, 3, 4, 14, and 15). Patients who have severe backache, especially adults, find a couch with a movable back, which can be fixed at various

angles, more restful during reading, but there should always be an easel table, attached or not, to support the

Fig. 14.

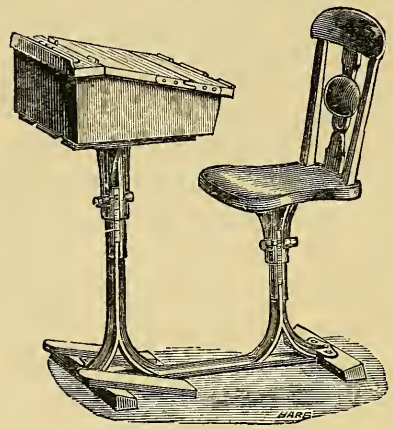
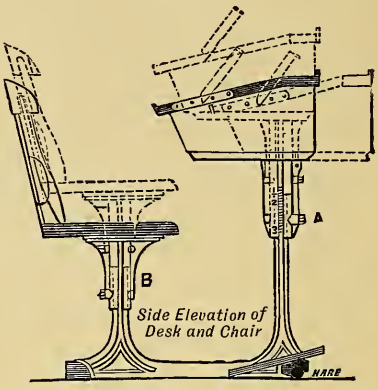


Fig. 15.



Explanation.—By the application of a key to A and B, the desk and seat may be raised or lowered to any desired height.
Desk top slides horizontally.
Writing slope at 15°, reading at 40°.

book (see fig. 16). For *pianoforte* playing, the same rules apply, the ordinary music-stool should be discarded, and a high-backed chair employed, which will also come

Fig. 16.

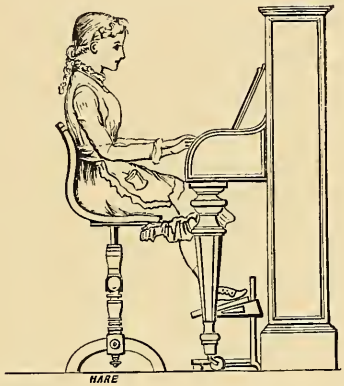
in useful for meals (see fig. 18, which represents a good music-stool with back, also manufactured by the North of England School Furnishing Co.). In all cases, the

seat of the chair or couch should be horizontal, and not tilted up in front, as is frequently seen in so-called spinal couches; and the patient's feet should always be supported, either by the ground or by a footstool. I allow *violin* playing, provided the patient never stands, but always sits symmetrically, with the back well supported by a narrow longitudinal cushion which allows of the complete freedom of movement of the right arm.

FIG. 17.

Position on ordinary music-stool.

FIG. 18.



Position on Glendenning's Patent Music Chair.

PRACTISING.

When we find a leading surgeon, not only advocating *shoulder-braces*, but even inventing a new one, still more injurious than most of its predecessors, because of its greater strength, from being manufactured of solid rubber bandage,* one feels inclined to rub one's eyes and to ask whether scientific orthopædic surgery is really advancing, or whether we have gone back half a century or more. John Shaw, that enlightened and able author of a more rational treatment of Lateral Curvature,† criticised shoulder-braces as follows:—

"The effect which this instrument (shoulder-brace or

* See the *Lancet*, May 3rd, 1884: "On a New Form of Shoulder-brace for the Treatment of Stooping Habits, Incipient Lateral Curvature, etc."

† "Further Observations on the Lateral or Serpentine Curvature of the Spine. . . . Being a Supplement to the Work on Distortions of the Spine and Bones of the Chest." London: 1825.

'common back-collar') produces in ordinary cases may be easily comprehended. . . . If the shoulder-blades be brought close to the spine by the straps of the brace and kept constantly so, there can be no use for the several strong muscles which pass from the spine to the shoulder-blades. They must consequently waste and become nearly useless, while those on the forepart of the chest, being excited to resist the straps, will become increased in power; and hence, when the brace is taken off, not only will the shoulders fall forward, as in a delicate person, but the muscles on the forepart of the chest will predominate over those by which the shoulder-blades should be held back, and *pull* the shoulders forward." This was written upward of seventy years ago, and is so complete and simple a refutation of any supposed efficacy of shoulder-straps for stooping habits, that I have little to add to it. I have observed in numerous instances where shoulder-braces have been worn for several months or longer, and where, from misplaced perseverance and severity, they have been worn extra tightly, that the unfortunate wearer has tried to obtain relief from the excessive pressure of the straps over the coracoid process, and adjacent clavicle on each side, by throwing the whole trunk backward by undue arching of the loins, with the result of producing severe lumbar lordosis in addition to the dorsal cyphosis (stoop) for which the apparatus was being worn. I am quite aware that dorsal cyphosis is generally accompanied by compensatory lumbar lordosis, but in these cases to which I refer, the lumbar hollow is much severer than usual, and causes an exaggerated thrusting forward and prominence of the abdomen. Of course, I am referring to the cyphosis of muscular debility, and not that due to diseased bone (spinal caries). In spite of these facts, many medical men of the present day, are in the habit, not only of allowing, but even of advising patients to wear these instruments. The only way in which shoulder-straps might be worn with benefit—not that I ever recommend them—is well illustrated by the following anecdote, which is also culled from good old John Shaw:—

An eminent surgeon was consulted by a gentleman, who became one of our first tragedians, as to the best mode of correcting a stoop which he had acquired. The surgeon told him that neither stays nor straps would do him any essential good, and that the only method of succeeding was to recollect to keep his shoulders braced back by a voluntary effort. But the tragedian replied that this he could not do, as his mind was otherwise occupied. The surgeon then told him that he could give him no further assistance. Shortly after this conversation, the actor ordered his tailor to make a coat of the finest kerseymere, so as to fit him very tightly when his shoulders were thrown back. Whenever his shoulders fell forward, he was reminded by a pinch under the arms that his coat cost him six guineas, and that it was made of very fragile materials; being thus forced, for the sake of his fine coat, to keep his shoulders back, he soon cured himself of the stoop. He then showed himself again to the surgeon, who ever afterwards, when consulted whether young ladies should wear shoulder-straps, permitted them on condition that they were made of fine muslin or valuable silk, for tearing which there should be a forfeit!

I am totally opposed therefore to all mechanical contrivances for trying to fix the patient in an improved posture while writing, reading, etc., whether by means of braces, stays, or head—or rather forehead—rests, which last have been strongly advocated by several Continental surgeons. My results, which are far more rapid and so much more successful than those obtained by other methods of treatment, are obtained by the re-education of the patient's muscular sense for the improved or normal posture, and by regulated muscular exercise, without the employment of any mechanical restraint.

Short sight or any other deficiency of the eyes must be corrected at once, by suitable spectacles, etc., as it would be useless to urge a patient to hold himself erect, who had always to poke the head forward for reading or looking at anything.

Standing at lessons or at other occupations should always be avoided if possible; when inevitable, the patient ought to stand equally on both legs, with the heels three or four inches apart. *Standing on one leg* is most injurious, as it at once throws the spine into a serpentine position, increasing the Lateral Curvature. For the same reason *sitting with the thighs* (*knees*) *crossed* should never be allowed, because this position of the legs causes a tilting of the pelvis and an exaggeration of any lateral curves present in the spine.

A considerable number of scoliotic patients will be found to *bite their nails*; this habit often retards rapid improvement of the spinal curvature by causing the patient to stoop. This trick is most readily cured by the wearing of gloves constantly day and night till the nails have been allowed to grow to a respectable length.

A horse-hair mattress with a low pillow is all that need be advised for the night, in addition to having the window always open for a few inches at the top.

(*c*) *Attention to dress.*—It is essential that no article of clothing should interfere with the resumption of an improved or perfectly normal position of the patient's spine and trunk. This can be tested by making the patient stand in the best possible position with the back to the wall, and with the clothes opened in front, as already described on page 27. In girls up to puberty, and even later, three articles of dress are generally sufficient—*viz.*, a pure wool combination next the skin, thick for winter, thin for summer, a lined knickerbocker or divided skirt with bodice attached, all of wool, and an outer dress. An extra-thick knickerbocker, with gaiters meeting it at the knees, should be worn in very cold weather. It is a great mistake to employ *suspenders* for the stockings in children where there is the slightest tendency to round shoulders or Lateral Curvature: these suspenders are nearly always attached to bodices or stays, which in their turn are prevented from being dragged down by straps over the shoulders: it is these shoulder-straps which do the harm, not only

by dragging the shoulders down and forwards, but also by compressing the anterior thorax. For this reason, as long as the hips are not sufficiently developed to allow of a suspender-belt being worn round the pelvis, it is much more sensible to wear the old-fashioned knitted woollen or silk garters, which are fixed by a few turns round the leg, either above or below the knee, which leave scarcely any mark on the skin, and do not in the least interfere with the circulation of the lower extremities. In women, there should be no red zone of pressure on the skin of the thorax or abdomen, produced by stays or injudiciously placed tight petticoat bands; the latter should be shaped and made to fit round the pelvis, so as not to compress the lower ribs above the hip-bones (iliac crests). Stays with very little whalebone or steel, and with a vertical slip of elastic webbing expanding transversely, inserted on each side, or the Jaeger knitted stays (Feodora or Melita patterns), are advised whenever the breasts are at all developed. Such stays admit of the full expansion of the lower ribs, and are worn, not with the object of supporting the spine, but for steadying the mammæ and keeping the outer dress neat and without folds.

In scoliotic boys and men, braces should be left off at once, and either a cricketing-belt worn or a special arrangement made in the trousers, known as the "French bearer," which is tightened or loosened as desired by a couple of straps on each side behind: both belts and trouser-straps should be just below and around the hip-bones (iliac crests), and not above them.

In both sexes broad, properly-shaped, and low-heeled boots and shoes should be worn, preferably the latter, to allow of the fullest freedom to the movements of the ankle-joint.

(*d*) *Systematic training of the spinal and other muscles, including the development of the thorax.*—At first, attention is to be directed to correcting the antero-posterior curves of the spine; when these are improved, then only is it possible to carry out special exercises for

further correcting the lateral curves, which undoubtedly improve while the antero-posterior curves (stooping) are mainly being treated. The following is a prescription of twelve exercises with which I commence the treatment of cases of Lateral Curvature of the Spine :—

1. Lying on back; arms by the sides of the body; palms upwards; slow, deep inspiration by the nose; slow expiration by the mouth (repeated four times).

2. Similar exercise with the arms extended upwards by the sides of the head (repeated four times).

3. Same position as 1; head (neck) rotation on axis to right and left alternately; also lateral flexion of head (neck) to right and left alternately (repeated four times).

4. Lying on back; simultaneous circumduction of both shoulder-joints from before backwards; elbows and wrists kept extended (repeated twenty times).

5. Lying on back; one hip circumduction from within out, and from without in; knee kept extended (repeated ten times).

6. Lying on back; simultaneous quick extension of the arms upwards, outwards, and downwards, from a position with the elbows flexed and close to the trunk; the flexion of the elbows being slowly executed (repeated six times).

7. Lying forwards; one hip circumduction from within out, and from without in; the knee kept extended (repeated ten times).

8. Sitting on couch, with back at an angle of 45°; ankle circumduction down, in, up, and out, while the toes are directed inwards the whole time (repeated twenty times). Also foot abduction, patient resisting; and foot adduction, surgeon resisting (repeated eight times) (for flat-foot and weak ankles).

9. Patient astride a narrow table or chair without back, with arms down and hands supinated; trunk flexion at lumbar vertebræ, patient resisting slightly while maintaining the best possible posture, followed by trunk extension, surgeon resisting by his hand still against the

back of patient's head or neck; also trunk rotation on its axis alternately to the right and left, while the surgeon gently resists by grasping the patient's shoulders (repeated three times).

10. Patient, with arms extended upwards, stands with head, back, and heels against a vertical post with pegs on each side, which he grasps. The surgeon gently pulls the patient's pelvis forwards by his hands on the sacrum, patient resisting; and then the patient moves back the pelvis to the post, surgeon resisting. At no time are the patient's heels to be raised from the ground. Also pelvis rotation on its axis to right and left alternately, surgeon resisting with his hands on each side of pelvis (repeated three times).

11. Lying on back, with arms extended upwards by the sides of the head; flexion of both arms, surgeon resisting by grasping the hands, followed by extension, patient resisting (repeated three times). (The patient's knees, flexed over the end of the table, fix his trunk.)

12. Lying on back, with head and neck projecting beyond the end of the table; arms by the side of the body, palms up; the head is slowly flexed by the surgeon's hand on the occiput, patient resisting, followed by head extension, surgeon resisting (repeated three times).

With women and children the last four exercises are personally carried out by the surgeon, while trained female assistants do the remaining eight under his supervision. Boys above fifteen years, and men patients, are treated alone, and the surgeon goes through the whole prescription with them. The patient should rest for a minute or two between each exercise, except the first three, on a couch with movable back fixed at an angle of 45° (see fig. 16), or an ordinary chair properly arranged. It is important, while practising this prescription of exercises, that respiration should not be interfered with by involuntary fixation of the chest-walls. The patient should therefore always count aloud (*e.g.*, 1 to 5 or 10) during the execution of all the exercises, except those of breathing. Six to twelve, firm

longitudinal "strokings" from above down, of the patient's back, by the assistant's palms, at the end of the sitting, generally remove any aching caused by the exercises. These strokings are also usefully employed at home so relieve backache. The exercises should be done slowly, and great care taken that the head and trunk remain the whole time in the best position. This prescription requires above three-quarters of an hour to go through, and should be followed, if the patient is at all tired, by a short rest in a good position, with the back supported.

The prescription is repeated daily; and, as the patient gradually gains more power and begins to assume the improved position more readily, and with less exertion, other and severer exercises are gradually added. In a day or two, if the patient is not over-fatigued, the following *standing* exercise is done:—The patient, with the feet slightly apart and the backs of the heels fixed against a ledge or wall, rests with the front of the thighs just above the knees against a low padded horizontal bar, or the padded seat of a chair which is fixed, while holding himself as erect as possible; the surgeon then slowly flexes the patient's trunk by pressing his hand against the back of his head, patient gently resisting; and then the patient slowly recovers the vertical position against the surgeon's resistance; also trunk rotation on its axis alternately to the right and left, while the surgeon gently resists by grasping the patient's shoulders (repeated three times). This being, in fact, exercise No. 9 described above, in a standing instead of a sitting posture. This exercise is shortly described as "*Thigh opposite standing, trunk flexion, patient resisting, and trunk extension, surgeon resisting; also trunk twisting, surgeon resisting.*"

Usually at the end of a fortnight, a severer exercise can be tried, known as "*Forwards lying, heels fixed, trunk extension and flexion; also trunk twisting,*" carried out as follows:—The patient lies prone, with the pelvis and legs supported and the heels fixed (the latter by

some one sitting on them, or by means of a broad buckled strap) on a padded table, while the head and trunk to the level of the hip-bones (iliac crests) project beyond the edge of the table. The patient slowly raises the trunk into the same horizontal position as the legs and pelvis, and slightly higher, and then as slowly allows the trunk to be again flexed by its own weight. The surgeon easily increases the severity of the exercise in a few days, by more or less pressure according to the strength of the patient, with one hand at the back of the patient's head. After repeating this movement three times, the patient slowly rotates the trunk on its axis, while the surgeon gently resists by grasping the patient's shoulders; this also is repeated three times. On first practising this exercise, the arms are kept down close to the outer aspect of the thighs with the palms directed towards the ground; after a day or two, both arms are directed upwards by the sides of the head, grasping a stick or a roll of paper. Another severer exercise which can also be practised now is shortly described as "*Long sitting, feet fixed, trunk extension and flexion; also trunk twisting.*" Here the patient sits on a padded table, with the legs together and the knees extended; an assistant sits on the legs below the knees, or a strap is used over the ankles to fix them; the patient, while maintaining the best possible posture, slowly extends the spine against the surgeon's resistance (applied by his hand against the back of the patient's head or between the shoulder-blades) till the trunk is in the same horizontal plane as the legs; the patient then slowly and gently resists, while the surgeon raises him into a vertical position of the trunk; this is repeated three times. Next the patient, while sitting in the best possible posture, slowly rotates the trunk on its axis to the right and left alternately, while the surgeon gently resists by grasping the patient's shoulders: this also is repeated three times.

At this stage of the treatment, a commencement is made in increasing the severity of the hip circumductions (see

Exercises, Nos. 5 and 7), by applying half-pound to one-pound *shot-bags* to the ankles, which weights are gradually increased up to three, four, or five pounds, according to the patient's age, by the end of the three months' course of daily treatment. Youths and men usually work up to ten-pound shot-bags during this same period. At the end of the first month's treatment (twenty-four visits), the antero-posterior curves of the spine have in most cases become sufficiently improved to allow of the "*keynote*" position of the arms being employed (see page 26). A fresh examination of the patient's back is therefore made, and the best position of the arms decided upon. In most cases of ordinary reversed ∂ Lateral Curvature, this "keynote" position will be one with the right arm directed vertically upwards by the side of the head, and the left arm either directed horizontally outwards or grasping the right wrist; in other cases, especially those with severe osseous deformity of the ribs and vertebræ, the best obtainable posture ("*keynote*" position) is often one with the elbows firmly clasped above the head.

Female patients usually continue the daily repetition of these exercises *during the menses*, except that the hip circumductions are omitted for the first two or three days, as these movements tend to increase the menstrual flow. Where menorrhagia or dysmenorrhœa is present, it is sometimes necessary to leave off the exercises altogether for a day or two. As a general rule, it is better to accustom the patient to practise most of the exercises all through the period of menstruation. While on the subject, it may be stated that flexions of the uterus are no hindrance to the treatment, as none of the exercises described are violent or jerky in their execution; and from the fact that respiration is never allowed to be impeded, by the previously mentioned simple device of making the patient constantly *count aloud*, any over-exertion can always be prevented with ordinary care. I have often, with the permission of the gynæcologist, given a patient the usual three months' course of daily treatment, with the usual beneficial result both to the spine

and the general health, even while a pessary was being worn. For the same reasons—*viz.*, the absence of violent and jerky movements and the counting aloud—ordinary *heart disease*, which is now so successfully treated by the Nauheim Method, is no bar whatever to the treatment I employ for Lateral Curvature; indeed the heart trouble is alleviated in almost every case when complicating the spinal curvature.

Duration of the treatment under the personal daily supervision of the surgeon.—In cases of "non-osseous" or "postural" Lateral Curvature, one or two months' daily perseverance in the treatment (twenty-four or forty-eight visits) will effect a cure of the deformity; while in cases with "osseous" or "incurable" deformity, three months' daily treatment, will, in the vast majority of cases, effect all the improvement that is possible—*viz.*, a strong and straighter back, with arrest of further increase of the deformity of the ribs and vertebræ; this is what I describe as "a practical cure." Some very severe cases, especially those associated with much pain, require as long a treatment as six months; but this is very exceptional, as will be shown later on. The great advantage of this treatment of Lateral Curvature, over that by spinal supports and lying down for many hours daily, is that it always tends to improve the general health of the patient, notably in delicate, anæmic, and badly nourished boys and girls, at the onset of puberty.

(*e*) *Attention to general health.*—Care should be taken to improve the general health in every possible way. I invariably make it a rule to have patients *weighed* before commencing treatment, taking care to have the clothes worn at the time of weighing, weighed the same night at home, so as to obtain the net weight. It is remarkable what a large increase of weight occurs during the usual three months' course of treatment. Very frequently patients gain in weight at the rate of half a pound to a pound or more every week, and it is not at all uncommon for twelve or fourteen pounds, gain of weight to be obtained by the end of the three months'

course. If the appetite is poor, a good basin of bread-and-milk, or oatmeal porridge with milk or cream, should be ordered for breakfast, and patients made to persevere in taking a good breakfast, even if they complain of nausea or discomfort at first. After a few weeks, patients begin to enjoy their food as the result of the muscular development and the increased capacity of their lungs. This especially applies to young ladies who have been in the habit of taking only half a slice of dry toast and a cup of tea, or something equally absurd, for breakfast.

Pain or Backache (see also page 20).—Patients with constant wearying backache, generally in the loin muscles, especially at night, when it prevents or interferes with sleep, are much relieved by a simple water compress applied as follows:—A soft towel or handkerchief, folded into an oblong about eight inches by six, is dipped into warm water, squeezed moderately dry, and placed over the painful spot. This is kept in position by a thicker dry towel folded longitudinally, which should be sufficiently wide to overlap the wet compress by at least an inch above and below, and fastened in front of the thorax by tapes or safety-pins; no oil-silk should be used. Some patients prefer the compress applied cold; but this matters little, as it soon assumes the temperature of the body. If properly arranged, the wet compress ought to be quite dry by morning, when applied overnight. When the pain is distinctly localised, as below one shoulder-blade, or over one or several vertebral spinous processes, and is neuralgic in character, I have found the employment of an acupuncture instrument, such as Dr. Brindley James's, frequently useful in effecting an immediate, and sometimes a permanent cure of the neuralgia. A *daily morning bath*, with cold or tepid water, if the patient's powers of reaction are low, should always be insisted upon as a good general tonic; if a biscuit and a piece of chocolate are eaten in bed before getting up, a good reaction is generally assured. *Singing*, by helping to develop the thorax, is always beneficial. At least one and a half to two hours' daily *outdoor*

exercise should be prescribed; running, and joining in games, especially lawn-tennis in summer, and hockey and lacrosse in winter, are very beneficial after the commencement of treatment—of course, in moderation at first; any fatigue which ensues is really helpful, if it is overcome by resting for a quarter or half an hour afterwards: only that amount of walking or exercise which induces fatigue or pain, lasting hours, does harm. In such cases, the walk, etc., must be curtailed. *Bicycling* is one of the most useful of outdoor exercises, and is far more suitable for scoliotic girls and women than the present fashion of riding on horseback on one side: I generally prescribe bicycling by the end of the first month's treatment, when the patient has generally been trained to hold himself or herself more erect and with much less effort. If *horse exercise* is strongly desired for lady patients, it can only be allowed at the end of the three months' course of treatment, and then only provided the young lady rides alternate days on the "near" and "off" sides, so that both sides of the trunk are equally exercised. Boys and men may always be allowed to ride at the end of the first month's treatment, as the stride position is perfectly symmetrical.

(*f*) *Subsequent home treatment to prevent relapse in the improvement or cure that has been obtained by the surgeon.*—To keep up the improvement and to prevent relapse in a cured case, it is important to continue to enlist the patient's co-operation and interest in his or her own case, on ceasing the personal treatment of the surgeon; and for many years I have been in the habit of giving patients, on leaving, a written *home prescription* of movements, of which the following is an average example:—

Home Prescription.—Half an hour twice daily for six months, then once daily for another six months.

1. Lying on back, arms directed upwards by the side of the head, full inspiration by the nose; slow expiration by the mouth; also same with arms down

by sides of the trunk, palms upwards (repeated three times).

2. Sitting astride a chair, with the arms directed upwards by the sides of the head and holding a stick (or other position of the arms constituting the "key-note" position), trunk lumbar flexion and extension; also trunk rotation on its axis to the right and to the left; also the same trunk movement with the arms down by the sides of the trunk, palms forwards (repeated three times).

3. Lying on back, arms down by the sides of the trunk, palms upwards; head rotation on axis to the right and to the left; also head lateral flexion to the right and to the left (repeated four times).

4. Lying prone on the ground; heels fixed by some one holding or sitting on them, or by means of a strap fixed on the ground; arms as in 2; trunk-raising (extension) and trunk-lowering (flexion); also trunk rotation on its axis to the right and left (repeated three times).

5. Lying on back, with arms by the sides of the trunk, palms upwards, one hip circumduction from within out and from without in; the knee kept extended the whole time (a shot-bag, weighing five to ten pounds for children and women, and ten to twenty pounds for youths and men, is attached to the foot to increase the severity of the exercise). (Repeated ten times.)

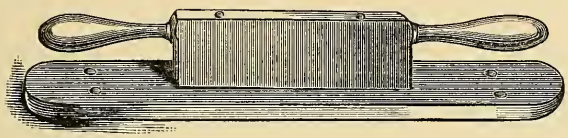
6. Lying on back; slow simultaneous circumduction of both shoulder-joints from before backwards; elbows and wrists extended the whole time (repeated twenty times).

7. Lying prone on the ground, with heels fixed as in 4; trunk kept raised from the ground (extended); simultaneous extension of the arms upwards, outwards, and downwards, from a position of elbows flexed and close to the trunk (repeated four times).

8. Standing with back against door, feet together, arms directed upwards, and hands grasping two-pegs

fixed into the lintel above the door; pelvis rotation on vertical axis to the right and to the left (repeated twelve times); also the same exercise hanging with the feet raised off the ground and the sacrum kept touching the door (repeated three times). The "*orthopædic hanging-peg*," of which fig. 19 is a sketch, is manufactured by Mr. Ison, of 101, Hampstead Road, London, N.W., and Mr. Stevens, of 83, Waldegrave Road, Brighton. It is easily fixed by four screws into the lintel of any door; and if this is too high for the patient, a block of

Fig. 19.



wood or a hassock under the feet brings the pegs within reach.

9. Lying prone, the forehead supported on the hands, placed one above the other; one hip circumduction from within out and from without in; the knee kept extended the whole time (a shot-bag, weighing five to ten pounds for children and women, and ten to twenty pounds for youths and men, is attached to the foot to increase the severity of the exercise). (Repeated ten times.)

10. Walking forwards and backwards, with the arms directed upwards by the sides of the head and holding a stick (or other position of the arms, constituting the keynote position); also with the arms directed downwards with the palms forwards. (One hundred steps in each position.)

This *home prescription* is practised usually, as stated above, for half an hour twice a day for six months, and then once daily for another six months. At the end of the twelve months my rule is to examine the patient; and if the improvement or cure previously effected shows no relapse, I usually prescribe a much-abbreviated home prescription for *five minutes daily* for the next two years.

The *second* home prescription consists of the three exercises Nos. 4, 8, and 7, of the old or first home prescription, practised in this order every morning immediately before or after breakfast. In all cases it is absolutely necessary to persevere in the maintenance of good positions for some years.

The Treatment of Flat-foot.—As upwards of 50 per cent. of cases of Lateral Curvature of the Spine are associated with flat-foot (see page 21), it will be convenient to describe here the treatment I employ for the foot trouble. In the treatment of flat-foot we have to aim at the restoration and maintenance of the previously depressed plantar arch, and the strengthening of the leg muscles which tend to produce and preserve the normal arch of the foot. We have therefore to discuss: (*a*) mechanical means for replacing and maintaining the plantar arch, and (*b*) therapeutic methods for strengthening the weak tibial muscles.

(*a*) *Mechanical means for replacing and maintaining the plantar arch.*—The boot or shoe should be broad enough across the metatarso-phalangeal articulations, and, if made to order, a tracing should be taken of the stockinged foot. When the toes are much deformed or displaced, the stocking should be digitated and the toes well spread out on the ground while the tracing is made. The so-called anatomically shaped foot-gear is only to be worn—that is, besides being rights and lefts, the shape of the sole should be such, that a line drawn through the axis of the heel from behind forwards, should, if prolonged, pass over the place occupied by the little toe. The heel of the boot should be low and broad, not more than double the thickness of the sole in front. Formerly I employed, for raising the depressed arch, a pad made of superimposed layers of felt; and this, combined with treatment for improving the muscular power, often had good results; every now and then, however, a case proved very obstinate. I have discarded pads altogether for the last thirteen years, except in very rare instances, and I no longer advise laced-up boots being worn; indeed, the

more freedom left to the movements of the ankle, the better, and I therefore recommend shoes. This has been recognised of late years by all experienced cyclists, who invariably prefer shoes to boots for cycling. Instead of a pad, which, if efficient, tends to bruise and irritate the already tender instep, I employ an increased thickening of the sole opposite the ball of the great toe, and on the inner margin of the heel, a modification of the method of my friend, the late Mr. H. O. Thomas, of Liverpool. His theory of the mechanical production of flat-foot appears to me to be the most rational; it is that, in the normally constructed foot, the lower end of the tibia is placed too much toward the inner border of the foot, so that the tendency of the tarsal arch is to give way under the pressure of the weight of the body, and this has to be constantly combated by the effort of the strong leg muscles inserted into the foot. If we had to create a new foot and leg, simply with the view of preventing flat-foot, we should plant the lower end of the tibia rather more toward the outer margin of the foot. The device of the wedge-shaped sole, with the base inside, and the apex outside, tilts or rotates the foot on its longitudinal or antero-posterior axis, and carries the lower end of the tibia toward the outer margin of the foot, and thus removes all or most of the pressure of the weight of the body, as transmitted through the lower end of the tibia from over the tarsal arch, in the same way as in the imaginary newly created foot and leg. The increased thickness of sole is from one-fourth to one-half inch, according to the age of the patient and the severity of the case; an addition of a corresponding one-fourth or one-half inch is added to the inner margin of the heel, and this thickness gradually diminishes to nothing at the outer margin, which should be protected by a thin plate of iron or steel studs, to prevent further differences of level of the two halves of the heel from wear. The same remarks apply to the increased thickness of the sole, which gradually tapers to nothing at the tip, as well as at its outer margin. This wedge sole can be

applied to boots and shoes already being worn. I believe that the benefit frequently obtained by valgus pads under the depressed instep, is really due to the patient being forced to walk on the outer border of the foot, to avoid the discomfort and annoyance of the pad pressing against the tarsal arch. Boots made, and so much advertised, with movable or spring-like waists, are useless, and even injurious, if the spring is prolonged to the outer margin of the sole, where the foot ought to rest entirely on the ground. As the chief movement of the foot in walking is at the metatarso-phalangeal articulations, it would be an advantage if this portion of the sole could be made of a more yielding leather.

Where the displaced arch cannot be restored except by *brisement forcé*, and where the discomfort of the patient is severe, I would recommend this being effected by Thomas's club-foot wrench, under anæsthetics, and the foot kept in a suitable splint in the improved position till all symptoms of the traumatism have disappeared.

(*b*) *Therapeutical methods for strengthening the weak tibial muscles which support the plantar arch.*—I know of no better exercise than walking on the toes with the heels raised an inch or so, taking care that they are not raised too much; for when the longitudinal, or long axis of the foot behind the metatarso-phalangeal articulations, is raised too vertically, there is less work for the muscles, as much of the weight of the body is transmitted through the bones of the tarsus and metatarsus, standing on end. It is a good plan to order the patient to walk fifty steps on the toes before and after each meal, at first, and then always to walk with the heels raised when indoors, if the wedged-soled shoes are not worn.

The chief exercises I employ for flat-foot are the following:—(1) "*Sitting, foot inward circumduction, repeated forty times.*" The patient, sitting on the floor or couch, with the back supported and the knee extended, circumducts the foot down, in, up, and out, while the toes are directed inward the whole time; the knee and hip should be kept perfectly still. The leg should rest on a small

pad just above the tendo Achilles, to leave the foot free or on the knee of the surgeon, who sits opposite, and to one side of the patient. (2) "*Sitting, foot adduction (surgeon resisting) and abduction (patient resisting), repeated twenty times.*" The patient is placed in the same position as before; the surgeon fixes the leg just above the ankle with one hand, while the palm of the other exerts a gradually yielding resistance to the patient's effort to adduct and invert the foot. On the completion of the adduction, the patient strives to maintain this position of the foot while gradually yielding to the pressure of the surgeon's hand gently pushing the foot back to the commencing position. (3) "*Standing, toes in, heels out, raising and lowering heels, repeated forty times.*" The patient stands with or without shoes, with the great toes touching, and the heels separated, so that the feet are at an angle of about 30 degrees (*i.e.*, rotation inwards of the legs from the hips); he has then to alternately raise and lower the heels, while forcing the ankles outwards as much as possible the whole time. (4) "*Walking on the outside edges of the feet with the soles directed inwards,*" requires no explanation. Patients with flat feet frequently assume this last position instinctively, to give relief to the overstrained ligaments, and this should be encouraged.

In cases of extreme muscular weakness, massage of the leg muscles for half an hour, once or twice daily, should be employed. For the technique I can refer those interested to my article, "Massage," in Heath's "Dictionary of Practical Surgery." Such severe treatment as the removal of a wedge-shaped piece of bone from the tarsal arch, does not appear justifiable; and I can only repeat, what I stated in the first edition of this book, that I have not yet seen a case which offered reasonable probability of this treatment being of permanent benefit to the mutilated patient: the effects of the treatment I advocate for flat-foot begin to be felt within a week or two by the patient, and I seldom see cases where all pain and discomfort have not disappeared

within one month's daily treatment, some even within a few days. For the cure of the deformity, even slight cases require several months' home treatment after ceasing the surgeon's personal treatment: and for severe cases, I generally find a year or more of perseverance with the wedged soles and home prescription, is necessary. I append a typical case, illustrating the treatment above described.

Mrs. ——, wife of an M.P., consulted me July 7th, 1884, with the following history:—Two years ago she began to have discomfort in the feet after walking—"a feeling as if the ankles were too soft." The discomfort increased for six months, when she became a vegetarian; and for a time the pain in the feet was less. Since then the pain has become gradually worse up to the present. The patient is an active, extremely intellectual woman, fairly well nourished; she can only walk up and down stairs or a few yards out of doors, and that with considerable discomfort. I found both feet severely flat (see page 23), with the pain and aching just under the arch of the instep, and described as "a dull, aching soreness" which "becomes acute pain at times"; standing still causes even more pain than walking. On August 25th—*viz.*, six weeks later—the patient wrote: "I am following your prescription as far as I can, and feel much better." Again on November 18th, four months later, "I am a great deal better. . . . When I was in London, I was trying to school my impatience to resignation to a walk of not more than a hundred yards at a time; now I can walk two miles without much fatigue, and I am astonished at the elasticity and youthfulness of my movements. I consider myself a walking advertisement of your surgical capacity!" This lady has continued well up to the present time, upwards of fourteen years.

Duration of the author's treatment of Lateral Curvature by "Posture and Exercise."—The usual course of treatment in an average case consisted of three months' daily treatment—that is, 72 visits. In Table VII., I give the

number of visits, each of the 1000 cases in the Appendix made while under my personal treatment.

TABLE VII.

NUMBER OF TIMES PATIENTS ATTENDED UNDER THE AUTHOR'S TREATMENT.

634	patients	attended	72 daily visits.
129	„	„	24 to 32 daily visits.
104	„	„	48 „ 68 „ „
49	„	„	81 „ 96 „ „
32	„	„	36 „ 43 „ „
21	„	„	12 weekly visits.
17	„	„	116 to 216 daily visits.
7	„	„	6 „ 18 „ „
6	„	„	36 alternate day visits.
1	„	„	6 weekly visits.
1000			

It will be seen that 634 patients attended the full course of 72 visits (three months' treatment). In early cases, with little or no osseous—*i.e.*, incurable—deformity, one to two months' daily treatment (24 to 48 daily visits) has sufficed, and this accounts for 265 other patients. Adult male patients have usually been treated on 36 alternate days (6 cases) or by weekly visits (22 cases). The remaining 73 cases, with 6 to 18 daily visits, and with 81 to 216 daily visits, have been exceptional patients, with whom the treatment has been either interrupted too soon, or from intercurrent illness unduly prolonged or repeated.

Result of the author's treatment of Lateral Curvature by "Posture and Exercise."—Some surgeons have tried to explain the success I claim, by maintaining that I only undertake slight cases of Lateral Curvature with any prospect of permanent benefit; but this is, I consider, completely refuted by a reference to the Tables I. to VI., giving the amount of osseous—*i.e.*, incurable—deformity present in the 1000 cases of the Appendix. A further proof, if any were necessary, is given in the following Table, VIII., which gives the *previous* treatment of 202 cases of the Appendix, which were undoubted failures while under the treatment of other surgeons, or they would not have come under my care.

TABLE VIII.

PREVIOUS TREATMENT BEFORE COMING UNDER THE AUTHOR'S CARE.

Treated by spinal steel supports.	Time not given	35 patients.
,, ,, ,,	For 1 year previously	16 ,,
,, ,, ,,	,, 2 years ,,	17 ,,
,, ,, ,,	,, 3 ,, ,,	10 ,,
,, ,, ,,	,, 4 ,, ,,	8 ,,
,, ,, ,,	,, 5 ,, ,,	2 ,,
,, ,, ,,	,, 6 ,, ,,	5 ,,
,, ,, ,,	,, 7 ,, ,,	2 ,,
,, ,,	,, 8 ,, ,,	4 ,,
,, ,, ,,	,, 10 ,, ,,	2 ,,
,, ,, ,,	,, 11 ,, ,,	1 ,,
,, ,, ,,	,, 20 ,, ,,	1 ,,
,, ,, ,,	,, 25 ,, ,,	1 ,,
		104 ,,
Treated by spinal supports of different kinds. *	Time not given	20 ,,
,, ,, ,, ,,	For 1 year previously	1 ,,
,, ,, ,, ,,	,, 2 years ,,	3 ,,
,, ,, ,, ,,	,, 3 ,, ,,	4 ,,
,, ,, ,, ,,	,, 5 ,, ,,	4 ,,
,, ,, ,, ,,	,, 6 ,, ,,	1 ,,
,, ,, ,, ,,	,, several years ,,	4 ,,
,, ,, ,, ,,	,, 8 years ,,	4 ,,
,, ,, ,, ,,	,, 9 ,, ,,	1 ,,
,, ,, ,, ,,	,, 11 ,, ,,	1 ,,
,, ,, ,, ,,	,, 12 ,, ,,	1 ,,
,, ,, ,, ,,	,, 16 ,, ,,	1 ,,
,, ,, ,, ,,	,, 20 ,, ,,	1 ,,
,, ,, ,, ,,	,, 24 ,, ,,	1 ,,
,, ,, ,, ,,	,, 40 ,, ,,	1 ,,
		48 ,,
Treated by spinal felt (poro-plastic) supports.	Time not given	29 ,,
,, ,, ,, ,,	For 1 year previously	7 ,,
,, ,, ,, ,,	,, 2 years ,,	4 ,,
,, ,, ,, ,,	,, 3 ,, ,,	1 ,,
,, ,, ,, ,,	,, 4 ,, ,,	3 ,,
		44 ,,
Treated by spinal plaster-of-paris supports.	Time not given	1 ,,
,, ,, ,, ,,	For 2 years previously	1 ,,
,, ,, ,, ,,	,, 3 ,, ,,	4 ,,
		6 ,,

* Including steel, felt (poro-plastic), plaster of paris (Sayre's jackets), etc.

I have omitted from Table VIII. previous treatment by ordinary or Swedish gymnastics, suspension by the head, massage or rubbing, Barwell's bandages, and the innumerable varieties of shoulder-straps and braces, because nearly every patient had undergone one or other of these

simple, but equally useless forms of treatment, before coming under my care. There are in Table VIII., 202 cases which had worn some sort of spinal support: of these 104 had been treated by *steel spinal supports* of every conceivable shape and design, for a varying number of years; thus 16 patients had one year's previous treatment, 17 patients two years', and so on till we come to 5 cases which had been treated for six years, 2 cases for seven years, 4 cases for eight years, 2 cases for ten years, and lastly 1 case for eleven, twenty, and twenty-five years respectively. Only 44 patients had been treated by *felt* (*poro-plastic*) *spinal supports* for varying periods up to four years, and 6 patients by *plaster-of-paris* (*Sayre's*) *spinal supports* for varying periods up to three years. Finally, some 48 patients had been each treated by two or more different kinds of spinal supports, which include patients who have been treated during respectively nine, eleven, twelve, sixteen, twenty, twenty-four, and, most astonishing of all, forty years (see case No. 261, page 74). In all these patients the spinal support has been completely discarded from the first day of my treatment, and with the most satisfactory results. The next Table, IX., gives the result of the author's treatment in the 1000 cases given in the Appendix.

TABLE IX.

RESULT OF AUTHOR'S TREATMENT BY "POSTURE AND EXERCISE."

944	869	patients were *much improved*
	75	„ „ *improved*
56	47	„ had *relapsed*
	9	„ were *not improved*
1000		

Of the "much improved" and "improved" patients

207	12	patients were keeping well	6	months afterwards
	92	„ „ „	1	year „
	57	„ „ „	2	years „
	46	„ „ „	3	„ „
	46	„ „ „	4	„ „
	30	„ „ „	5	„ „
	18	„ „ „	6	„ „
	6	„ „ „	7	„ „
	9	„ „ „	8	„ „
	2	„ „ „	9	„ „
	8	„ „ „	10	„ „
	326			

As I am convinced that osseous deformity of the vertebræ, even the slightest, is to that extent incurable, I have not ventured to put "cured" as the result of my treatment in any case, although some surgeons would have placed "cured" instead of "much improved" in most of the cases so described. By "*much improved*," I mean the best possible result that I was able to prognosticate when first consulted about the patient: namely, a strong and much straighter spine where the "*most improved posture*" of the consultation, has become the "*habitual*" one, with disappearance of the backache if previously present, with improvement in the general health where this has been failing, and, finally, with arrest of further increase of the osseous—*i.e.*, incurable—deformity of the ribs and vertebræ. Of course, the most complete cases in the Appendix, are those which have been seen by me, or have reported themselves to me, after one or more years. Unfortunately, like other medical men, I often find that when patients have become well and strong, they or their friends are unwilling to spend a further fee for having their cure confirmed. By "*improved*," I distinguish those cases where arrest of further increase of the osseous deformity has been effected, but where pain has still persisted more or less, or where patients have not held themselves as erect as they were expected to do. From Table IX., we see that 869 patients (86·9 per cent.) were *practically cured—i.e., much improved*—75 patients (7·5 per cent.) were *improved*, and 56 patients (5·6 per cent.) were more or less *failures*. Of the latter 47 (4·7 per cent.) were apparently successful at first, but then relapsed, and 9 patients (0·9 per cent.) were not improved from the first commencement of the treatment. Most of the failures have been due to want of intelligence, want of perseverance, or want of *amour-propre* or vanity in the several patients.

The most successful cases I have to deal with—*viz.*, those who put the greatest energy into their treatment—are often children from 8 to 12 years, young men who have run some risk of being rejected as physically

unfit at the competitive examinations for army officers, and young women engaged to be married. Patients who have suffered much from many physicians, I mean those who have worn spinal supports previously to coming under my care, have almost invariably done very well, because they appreciated their recently obtained freedom from mechanical restraint. 326 of the 944 "much improved" and "improved" patients were found to be keeping well, mostly by examination, within ten years of the course of treatment being completed under my personal care; 207 patients having been examined during the first three years only, as I do not usually examine after that period except for some special reason. 429 patients (42·9 per cent.) were sent direct to me by 202 medical men, to whom I desire to convey my thanks.

The following cases are illustrative of the Treatment by Posture and Exercise:—

Case I. Miss W., *æt.* eighteen years, a student at one of the London academies of music, was brought to me on March 4th, 1882, with the following history:— Three paternal aunts had spinal curvature, one much deformed; the patient is one of sixteen children, of whom ten are living. Two younger sisters, aged sixteen and fourteen years respectively, stoop considerably, but have no Lateral Curvature. Up to fourteen years old (four years ago) the patient was strong and never complained of her back. She then began to stoop and have backache, especially after long walks; the pain in the back would last till she went to bed. There was no illness or rapid growth to account for this weakness of the spine. The backache gradually became worse; and three years ago the patient was examined by one of the surgeons of the Sussex County Hospital, who said the spine was not straight, and she was ordered to lie down for two hours daily. At the end of another year, the same surgeon found the curvature decidedly worse, so an ordinary steel spinal support, with pelvic band and shoulder-crutches, was applied. This instrument has been worn for two years up to a month ago, the mother assuring

me that her daughter had become worse both in her figure and the backache during that time. On examination, I found ordinary letter C scoliosis—*viz.*, the whole spine convex to the left, the right shoulder-blade being more than two inches below the level of the left one; also moderately severe "gorilla" type of the antero-posterior spinal curves. There was a trace of osseous—*i.e.*, incurable—deformity of the left ribs posteriorly, and moderate osseous—*i.e.*, incurable—deformity of the lumbar vertebræ, indicated by the greater prominence of the left erector spinæ muscle, when the trunk was flexed. Although the patient looked so deformed, she could be placed in an almost normal position, and maintain that position by a great voluntary effort for a few seconds. Her feet and knees were normal. Sitting for half an hour any time of the day would bring on severe backache. I was interested to hear that whenever she wished to sing extra well, she left off the spinal support for the occasion. Her dress and stays were much too tight round the thorax, so that scarcely any respiratory movement took place in the lower half of the thorax. I gave her directions about position, and a few simple exercises for developing the thorax, and ordered the spinal support to be given up. Nine months later—*viz.*, on December 18th, 1882—I saw the patient for the second time. Both she and her mother considered there was some improvement, notwithstanding severe backache for the last fortnight. Her professor of singing has complained of her want of "breath." On examining the spine, I found it in the same state as when I saw her the previous and first time. Two days later—December 20th—six photographs were taken, which speak for themselves (see photographs in Frontispiece, 1 to 6). Photographs 1, 2, and 3, are the three views, posterior, lateral, and anterior, of the patient in her *habitual* position; and photographs 4, 5, and 6, are the corresponding three views of the patient in the *best possible position* in which I could place her. In all six photographs she was standing without boots,

with the feet close together and the knees fully extended, while the pelvis was placed symmetrically in relation to the feet. These photographs were almost instantaneous; yet it cost her considerable effort and backache to maintain the improved position in which I placed her for the few seconds necessary. My prognosis was that the patient could be so strengthened by three months' daily treatment, that this temporary improved position, involving such great effort when the photographs were taken, would become a permanent one without any effort; at the same time that all pain would disappear, and further increase of the osseous deformity would be arrested—that is, a "practical" cure. On December 23rd the patient began daily treatment, visiting my house for three-quarters to one hour daily. The following are extracts from my Case-book:—

"*January* 15*th*, 1883. Seventeenth visit for treatment. Yesterday and the day before she was without backache the whole day. This is the first time for more than two years that there has been a day altogether without backache. The patient's professor of singing saw her to-day, and, without anything being said to him, at once observed the marked improvement in her figure, and, on trying her voice, found there was an increased power of "breathing."

"*January* 16*th*. The patient tells me the dressmaker has had to let out her dress more than five inches across the chest. Her appetite is much better, especially at breakfast.

"*February* 23*rd*. The patient has not had any backache for the last ten days.

"*April* 9*th*. On examination I found the habitual position very much improved, scarcely any difference in the level of the shoulder-blades, and the antero-posterior spinal curves almost normal. The patient assumes the best possible position with great ease.

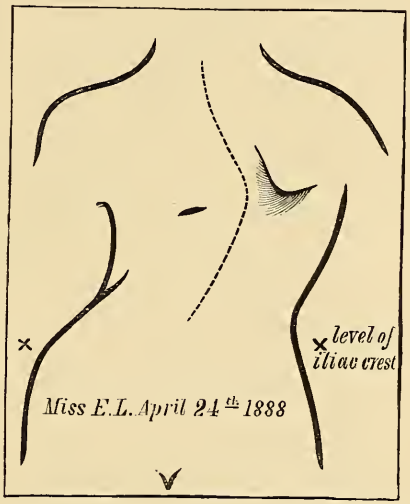
"*April* 11*th*. The patient is still without backache, and if this lasts till to-morrow, that will be four clear weeks passed without aching in the back. She is to cease coming to me for treatment.

"*April* 13*th*. The patient was exhibited before the Clinical Society of London, and the *Medical Times and Gazette* of April 21st, 1883, reported, "The young lady, the subject of the Lateral Curvature, was exhibited, and went through the various phases of the 'medical gymnastics' which had been practised with the view of bringing about a cure. The muscles, when in action in the different movements, came out very strongly. The case seemed to have undergone marked improvement." Two years afterwards this young lady went on the stage of one of the leading London theatres, and continued acting for several years till she married. When the Clinical Society's Committee on Lateral Curvature of the Spine was appointed on March 11th, 1887, nearly the first letter I received from the Hon. Secretary was one requesting me to exhibit this patient before the Committee. The young lady most kindly consented, and she was thoroughly examined by all the members of the Committee on April 15th, 1887. She also informed the Committee that the dressmaker of the theatre had never found fault with her figure when trying on new dresses. The Committee were satisfied that there had been no relapse since the patient had been exhibited at the Clinical Society's meeting four years previously. This was a severe test of the permanence of the cure I had been able to effect, because this young lady at the time she saw the Committee at my house, was not only acting every night in two pieces, but was rehearsing for several hours daily in a new play, which was soon afterwards successfully placed on the stage. This patient was last examined by me in January, 1897, some *fifteen years after she first consulted me*, and I was able to assure her that there had not been the slightest relapse of the Lateral Curvature of the Spine during all those years.

Case II. (see No. 221, in the Appendix of 1000 cases). Miss E. L., *æt.* 17 years, from Jersey, consulted me on April 24th, 1888, with the following history:—About eight years ago "the right shoulder was observed to be growing out," the only ascertainable cause being a very

rapid growth. The family doctor, on being consulted, advised nothing being done, as "it would all pass away." Four years ago, the patient in the meanwhile having become more deformed, a steel spinal support was applied and worn for six months; this was then replaced by a series of four Sayre's plaster-of-paris jackets, applied at intervals of three months; then a poro-plastic spinal support was applied, and had been worn for two years up to the time of consulting me. In spite of the continuous mechanical treatment of the last four years, the young lady had become terribly deformed, as can be easily seen from the rough sketch of the back (fig. 20), and from the reduced copies of the tracings of the ribs posteriorly (fig. 21), and of the loins (fig. 22), which I took according to the method described at page 12. These show the extreme deformity of the right ribs behind, and the serious prominence of the left iliac crest (hip-bone). The ribs anteriorly are likewise much deformed, and the whole thorax is consequently most unsymmetrical. When the patient was placed in the best possible posture, with the back against the door, her stays, dress, and jacket, would not meet in front for three or four inches. Her general health at the time of the consultation was only "pretty" good, and the patient complained of frequent pain in the back and beneath the left shoulder-blade. I gave as my prognosis that three months' daily treatment would effect all that could be done in such a bad case—*viz.*, a slight improvement in the spine, a better figure, a much stronger back, and a marked improvement in the general health, and at the same time, an arrest of

FIG. 20.



Rough sketch of back of Case II., with extreme Lateral Curvature (habitual posture).

further increase in the osseous deformity of the ribs and vertebræ. The patient came under my care a day or two afterwards, the spinal support being of course left

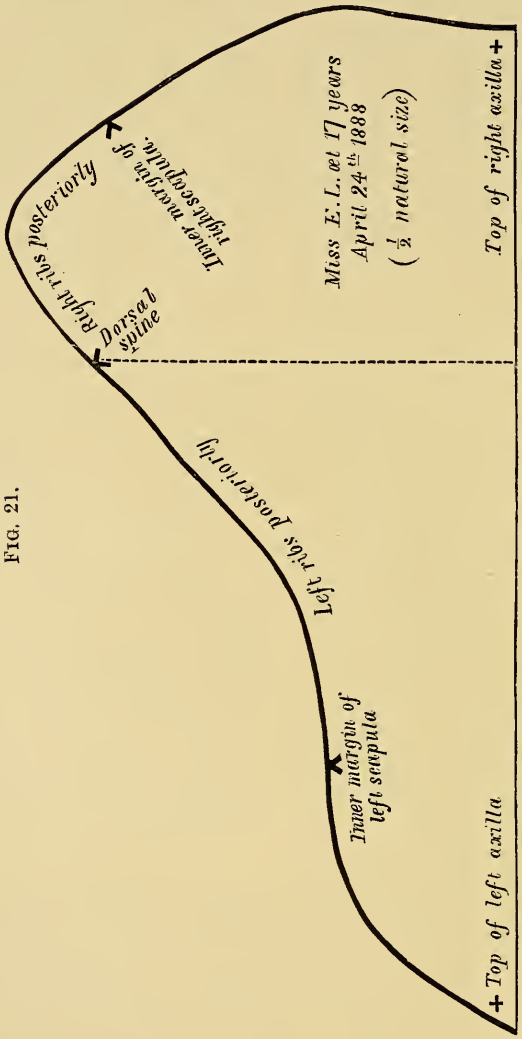


FIG. 21.

Tracing of ribs posteriorly, taken from one axilla to the other, in flexed position of trunk, in same patient as fig. 22 (half natural size).

off altogether; and the following notes of the progress of the patient are taken from my Case-book:—

"*May* 15*th*, 1888. Eighteenth visit for treatment; the patient began to-day the severest exercises (see page 40); she is doing extremely well.

"*May* 30*th*. Twenty-ninth visit for treatment; examined;

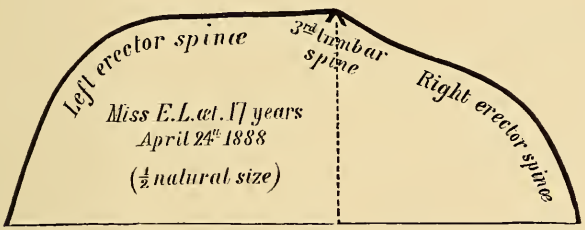
'keynote' position is one with the left arm directed upwards and the right arm directed outwards. There is slightly more movement in the spine, which is also a little less curved: the patient is already much stronger.

"*July* 21*st*. Seventy-first visit for treatment; examined. The spine is further improved in straightness, and has increased movability; still the same 'keynote.'

"*July* 23*rd*. Seventy-second and last visit for treatment. A home prescription similar to that described on page 45 was given to the patient, to be practised for half an hour twice daily at home for the next twelve months."

On December 9th, 1888, more than four months after leaving England, the patient wrote to me as follows: "I am pleased to say that I keep up very well. I do

FIG. 22.



Tracing of loins midway from ribs to iliac crests in flexed position of trunk, in same patient as figs. 20 and 21 (half natural size).

my exercises, either in getting up or during the morning and before going to bed." (It would be better, I think, to do the second half-hour of the home prescription before the midday meal, or at all events before evening, when most patients feel tired out and incapable of throwing much vigour into the carrying out of their treatment.) "All my dresses were much too narrow across the chest and too short in the waist. . . . My general health has much improved, and also one thing I am most thankful for is that those pains I used to have in the left side have entirely disappeared."

Case III. (see No. 224 in the Appendix of 1000 cases). Miss M. B., *æt.* sixteen years, the fifth of eight children, all delicate, was sent to me on April 27th, 1888, by the advice of Mr. C. Heath. Her previous history was that,

three years ago, the right shoulder was observed to be "growing out"; she was at once put into a steel spinal support, which was worn for two years. The deformity becoming much worse, the patient consulted a London orthopædic surgeon, who prescribed another steel spinal support, which was being worn when I was consulted. The friends described the patient as becoming rapidly worse during these three years, since they first observed the curvature. Figs. 23, 24, and 25, sufficiently illustrate the case, exhibiting as they do the severe deformity of the right ribs posteriorly, and the extreme deformity of the left loin, caused by the rotation backwards of the left transverse processes of the lumbar vertebræ, which form a severe lateral curve with convexity to the left. This young lady came for three months' daily treatment. On July 9th, 1888, the father wrote: "I beg to congratulate you on the great success in your treatment of my daughter"; and on January 12th, 1889, nearly six months after the patient left my personal treatment, he wrote: "I am pleased to tell you that my dear daughter is very much better for the three months' treatment under your care; she walks more uprightly, and does not become so easily fatigued, as she did before she went under your care. Her deformity is scarcely noticeable now as she walks along, and she is in good health and spirits. . . . I was truly delighted for her to leave off that wretched instrument which had been made for her, by the order of the surgeon she had previously been to, and which was not only a great disfigurement, and a

Fig. 23.

Rough sketch of back of Case III. with severe Lateral Curvature (habitual, posture).

very heavy thing for her to be always carrying about, but never did her the slightest good."

On February 12th, 1892, three and a half years after the completion of her treatment, I examined the back, which continues most satisfactory, with arrest of further increase of the osseous deformity. The patient is engaged to be married, with my full consent.

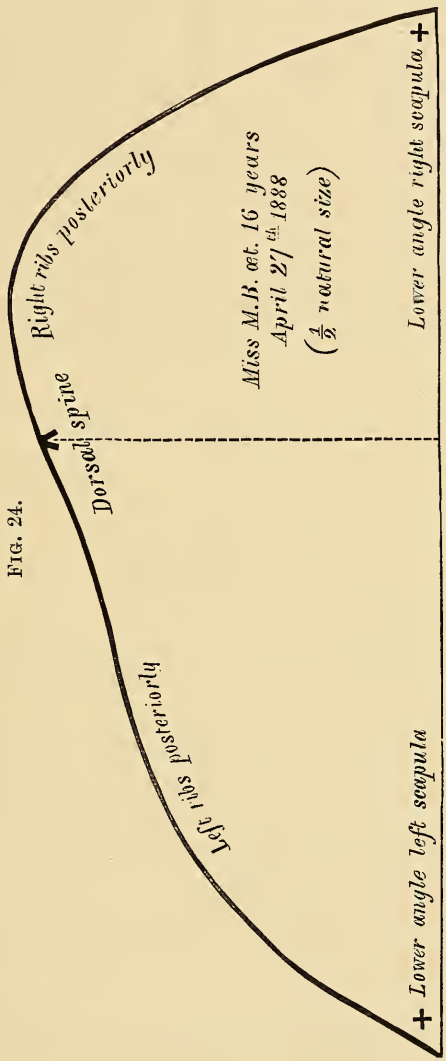


FIG. 24.

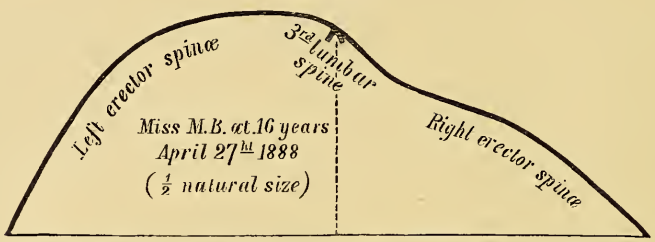
Tracing of ribs posteriorly, taken from lower angle of one scapula to that of the other, in flexed position of trunk, in the same patient as fig. 23 (half natural size).

Case IV. (see No. 10 in the Appendix of 1000 cases). Miss A. L., aged seventeen years and a half, was sent to me on October 20th, 1885, by a well-known hospital surgeon in London. This gentleman had commenced the treatment of the patient for Lateral Curvature five years previously, when, according to the statement of her aunt, she was not more deformed than her younger sister, whose photograph is given in fig. 26. She wore a succession of Sayre's plaster-of-paris jackets, followed by a poro-plastic felt spinal support, which she was wearing when she came to me. She also wore a jury-mast arrangement for twelve months during these five years, and she was, in addition, suspended by the head

and neck for ten minutes daily in the "gallows." All this treatment failed to prevent the development of the very serious deformity with which she came to me.

"*Present state* (October 20th, 1885): A delicate, anæmic, and extremely deformed young woman, with the left shoulder much depressed; she has never had backache, which is frequently the case even in the most deformed patients; her general health is said to be good. The spine presents extreme Lateral Curvature, with dorsal (upper) convexity to the right. The lower angle of the right scapula, and the left iliac crest, are very prominent. The antero-posterior curves of the spine are much exaggerated. When the trunk is flexed to the full extent, the right ribs posteriorly are very prominent

FIG. 25.

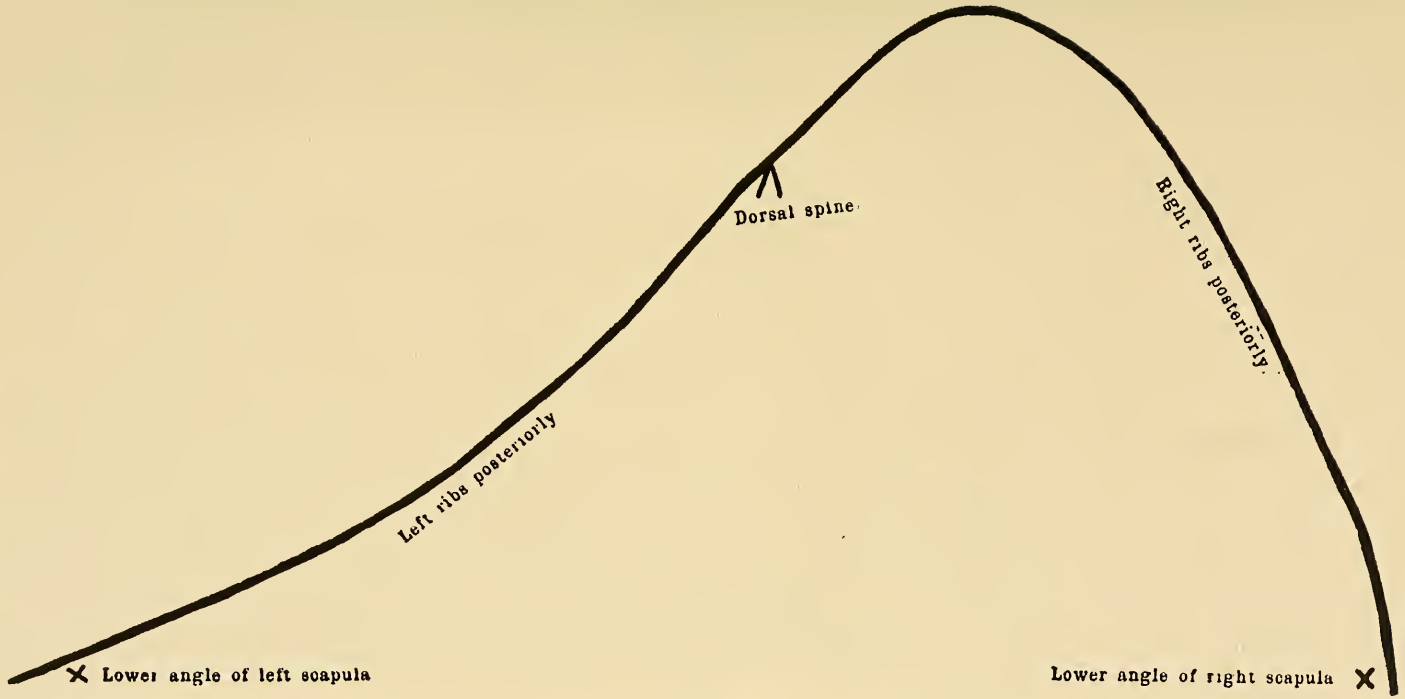


Tracing of loins midway from ribs to iliac crests, in flexed position of trunk, in same patient as figs. 23 and 24 (half natural size).

as compared with the left." (See fig. 27.) This is a tracing taken by my scoliosiometer from the lower angle of the left scapula across the spine to the corresponding angle of the right scapula; the left erector spinæ muscle is much raised by the corresponding convexity to the left of the lumbar vertebræ. (See fig. 28.) The tracing is taken opposite the third lumbar posterior spinous process.

When the patient was placed in the best possible posture, the poro-plastic felt jacket and her dress would not meet across the chest by several inches. My prognosis was that a course of three months' daily treatment would effect all the improvement possible: *i.e.*, an improved figure, strong spinal muscles, and most probably arrest of further increase of the osseous—*i.e.*, incurable—

FIG. 27.

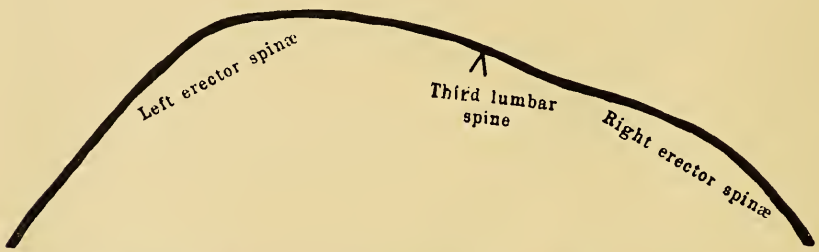


Miss A. L., aged seventeen and a half years, October 20th, 1885. (actual size).

deformity of the ribs and vertebræ; at the same time she would be independent altogether of spinal supports and become a much more useful member of society.

On November 3rd, 1885, I took a series of nine photographs, figs. 29 to 37 inclusive, which almost explain themselves. Fig. 29 shows the felt jacket being worn, posterior aspect. Fig. 30 shows the felt jacket being worn, anterior aspect. Fig. 31 gives the patient in her habitual position, seen from behind, and may be compared with fig. 29 to demonstrate how little effect the felt jacket had in maintaining an improved posture. Fig. 32 is the same as fig. 31 seen anteriorly, and may be compared similarly with fig. 30. Fig. 33 shows the

FIG. 28.



Miss A.L., aged seventeen and a half years, October 20th, 1885 (actual size).

patient in her habitual position, viewed laterally. Fig. 34 represents the patient placed in the "best possible" or most erect position, and demonstrates that the felt jacket is several inches too tight under such conditions; this figure should be compared with fig. 30. Fig. 35 gives the patient's trunk flexed, and is a gauge of the amount of osseous or incurable deformity of the ribs posteriorly; it may be usefully compared with fig. 27, proving how very accurate are the scoliosiometric tracings taken by my method in this flexed position. Finally, figs. 36 and 37 give the anterior and posterior views of what I describe as the "keynote" position—*i.e.*, the best position in which the patient can, by voluntary effort, directed by the surgeon, place herself while undergoing methodical exercise.

A few days later I exhibited the patient before the Clinical Society of London, and the following day I commenced daily treatment by "posture and exercise." On December 12th, 1885 (twenty-fifth visit for treatment), the patient informed me that she felt much stronger, and that her friends already observed a marked improvement in her figure. On the completion of her course of three months' daily treatment (seventy-two visits), she was again presented to the Clinical Society on March 12th, 1886.

The patient persevered with a home prescription of treatment for a year (half an hour twice a day for the first six months, then once a day for another six months), when I exhibited her again before the Clinical Society, March 7th, 1887. I was able to demonstrate that there had been no further increase of the osseous deformity, and that my prognosis had so far been fulfilled. On December 4th, 1888, two and three-quarter years after the completion of the three months' course of treatment, the patient's aunt wrote: "The deformity is no worse. . . . When she has time she is able to take long walks." I did not see her again till I asked her to come and visit me on June 5th, 1895, after an absence of eight years, when I found there had been no increase of osseous deformity, as tested by the tracing of the ribs posteriorly; her general strength and health have kept good during the ten years since she ceased treatment; in fact, considering her extreme deformity and weakness at the time she first came to me, I do not think she could have done better.

Case V. (see No. 26 in the Appendix of 1000 cases). The younger sister, Louisa L., of Case IV., aged fourteen years, was brought to me on February 8th, 1886, with well-marked Lateral Curvature of the Spine, but with only slight osseous—*i.e.*, incurable—deformity of the ribs and vertebræ; see habitual posture in fig. 26. This girl underwent only one month's daily treatment by "posture and exercise," which sufficed to cure her. This was confirmed when she was shown at the meeting of

the Clinical Society, March 11th, 1887. More than a year later the aunt reported, "She carries herself most uprightly." Seven years later, May 31st, 1895, the same relative wrote that the patient "had grown a fine young woman," which I was able to verify for myself when she accompanied her sister in June, the same year. Will not any impartial surgeon agree with me in believing that if the unlucky elder sister had received the same treatment at the corresponding stage of her deformity, she would have had eventually as straight a figure as the younger girl?

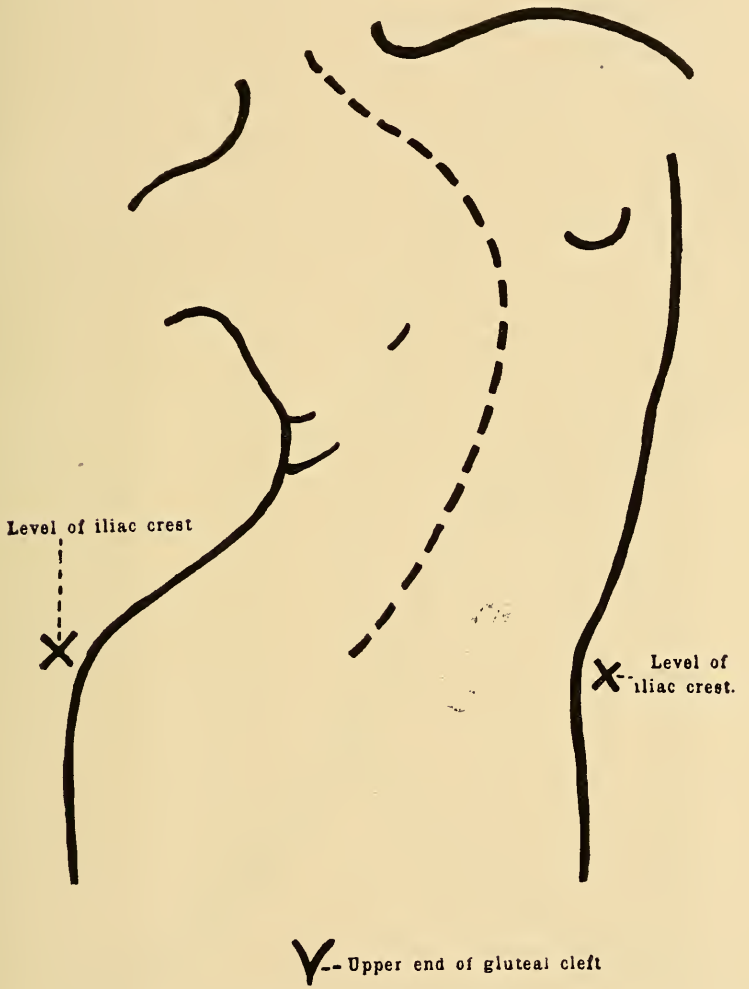
Case VI. (see No. 680 in the Appendix of 1000 cases). Miss M. W., aged sixteen years, the youngest of eleven children, was brought to me on January 10th, 1891, with the following history:—When five years old, a well-known London surgeon ordered her a poro-plastic felt spinal jacket, as well as to lie down several hours daily. Getting worse after three years of this treatment, she was taken *seven* years ago to an orthopædic surgeon, who has treated her up to the present time. At first he kept the patient lying prone strapped down all day; during the night a steel spinal support was worn, as it was found that she could not sleep if the strapping down in the prone position was continued at night. After two or three years of this treatment, her legs became so weak that she had to use crutches. A year ago, *after six years* of this treatment, the surgeon gave the mother to understand that he could not do anything more for her daughter.

"*Present state*, January 10th, 1891: A delicate, emaciated young woman, who came tottering into my consulting-room on crutches, helped on one side by an elder sister. She is wearing a heavy steel spinal support. She, like Case IV., has seldom had acute backache. *Spine.* There is extreme Lateral Curvature, with dorsal (upper) convexity to the right." See fig. 38, which is a rough sketch of her back; this shows the great prominence of the lower angle of the right scapula and of the left iliac crest. The antero-posterior curves of the

spine are much exaggerated, exhibiting what I describe as the "gorilla" type, with very prominent abdomen.

Figs. 39 and 40 represent the scoliosiometric tracings of the ribs posteriorly and the erectores spinæ muscles

FIG. 38.



Miss M. W., January 10th, 1891.

respectively; the tracing of the ribs posteriorly presents extreme torsion of the dorsal vertebræ. When the girl was placed in the best possible position, her dress and spinal support were much too tight, not meeting within

three or four inches. My *prognosis* was that a course of three months' daily treatment would effect all the

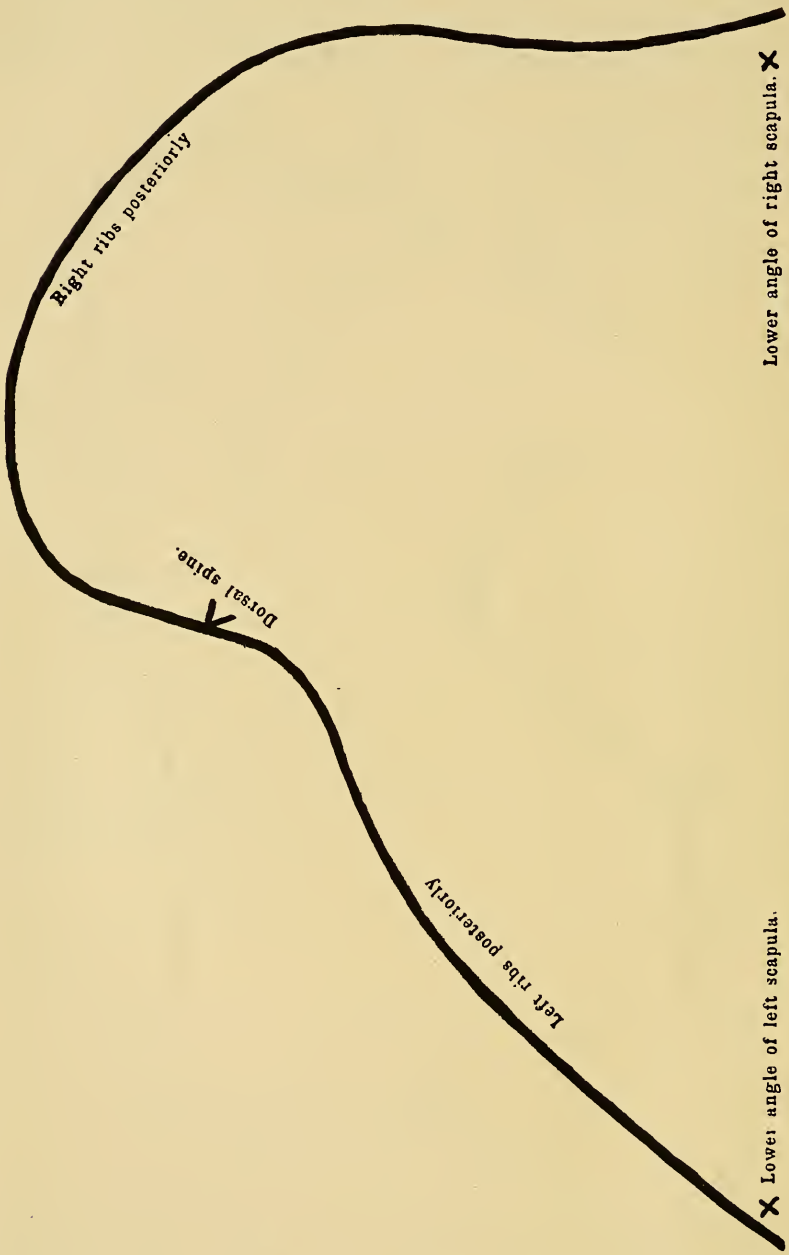


FIG. 39.

Miss M. W., aged sixteen years, January 10th, 1891 (actual size).

improvement possible—*i.e.*, increase her strength and improve her health, so that she would be able to walk

without crutches, and that probably further increase of the osseous deformity would be arrested. The patient completed her course of three months' daily treatment (seventy-two visits), April 14th, 1891, when I dismissed her with a home prescription for twelve months. Two days later the mother wrote: "She has to thank you for her strength and power of walking about." On October 1st, 1891, the patient wrote: "My sister says I hold myself much better, and my exercises (home prescription) are much easier to me now." On examination at the end of the year, April 13th, 1892, there had been no further increase of the osseous deformity, when tested by the tracings. Eighteen months later I was informed she was able to walk four miles in the course of the day without the mechanical help of spinal support or crutches. On January 15th, 1895, I saw the patient again, after nearly three years, and was pleased to find her looking remarkably well, and that since I examined her first, four years before, there had been no increase of the osseous deformity. At that time she looked so

FIG. 40.

Miss M. W., aged sixteen years, January 10th, 1891 (actual size).

ill and weak, that I do not think her life could have been much prolonged, if the instrumental treatment she was then undergoing had been continued. A marvellous change for the better took place as soon as she was treated on what I presume to call "common-sense" surgical principles; she has now every prospect of a strong and happy life before her, in spite of the terrible deformity with which she is afflicted, which deformity might so easily have been prevented, had she been properly treated when the Scoliosis first set in.

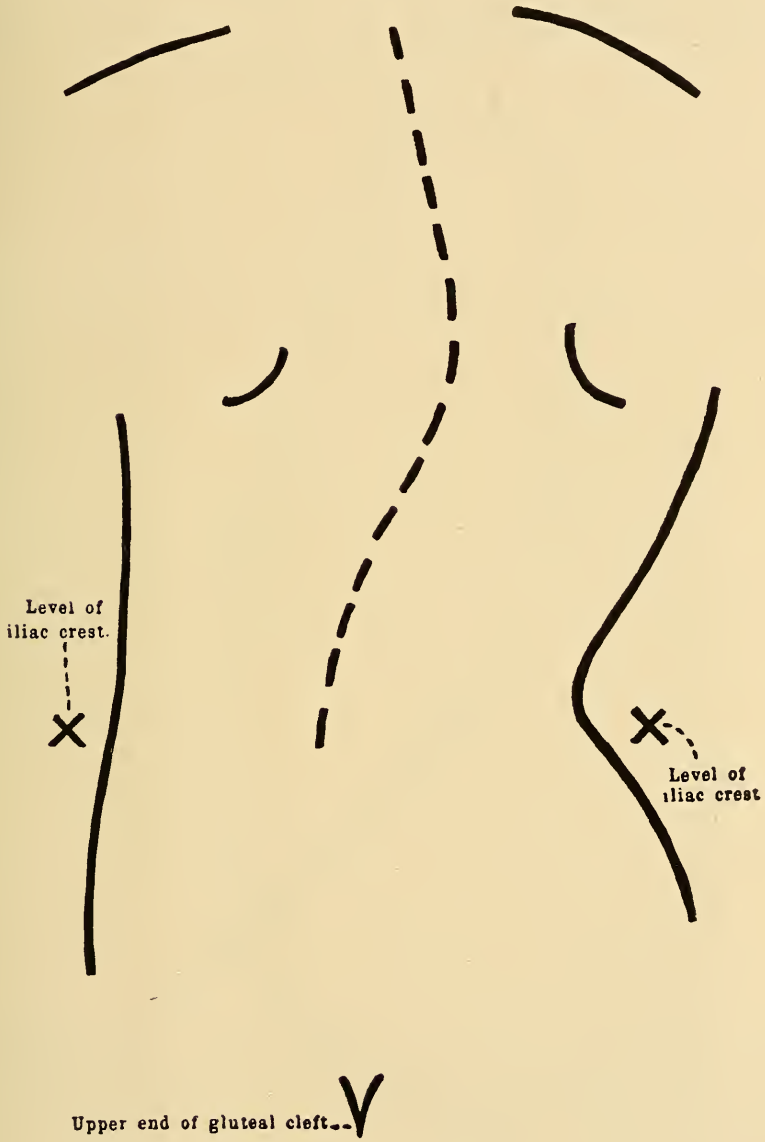
Case VII. (see No. 261 in the Appendix of 1000 cases). Mrs. A., aged fifty-seven years, consulted me July 27th, 1888. This is the most extraordinary case of maltreatment of Lateral Curvature by spinal supports I have ever come across, as far as duration of treatment is concerned. *This lady had worn steel spinal supports for nearly forty years.* Her son, a medical man, wrote to me: "My mother has worn a support for many years, and has suffered an incredible amount of pain from the deformity, which would seem to be of a neuralgic character, coming and going suddenly."

History. When the patient was fifteen years old, a then well-known orthopædic surgeon ordered a steel spinal support. This was worn till she was married, and then left off for a few years. Twenty years ago, another surgeon prescribed a new kind of steel support, which has been worn constantly ever since, under the same surgeon.

"*Present state* (July 27th, 1888): A fairly well-nourished woman, with severe Lateral Curvature, with dorsal (upper) convexity to the right (see figs. 41, 42, and 43, which show respectively the rough sketch of the back and the scoliosiometric tracings of the ribs posteriorly, and of the loins opposite the third lumbar vertebra). She can be placed in a much improved position, as the spine is still fairly movable, in spite of the osseous deformity." The patient commenced three months' daily treatment, October 3rd, 1888, and by November 16th (fortieth visit) she had improved so

much as to have been for the last eight days entirely free from pain; such a long relief had not occurred for

Fig. 41.



Mrs. A., July 27th, 1888.

many years past. This lady left me much improved at the end of three months' treatment. There were,

however, from time to time, relapses of the neuralgic pains in the back, and in May, 1889, she came for a further course of two months' daily treatment (forty-eight visits), and was again considerably relieved. In October, 1889, four months after leaving me the second

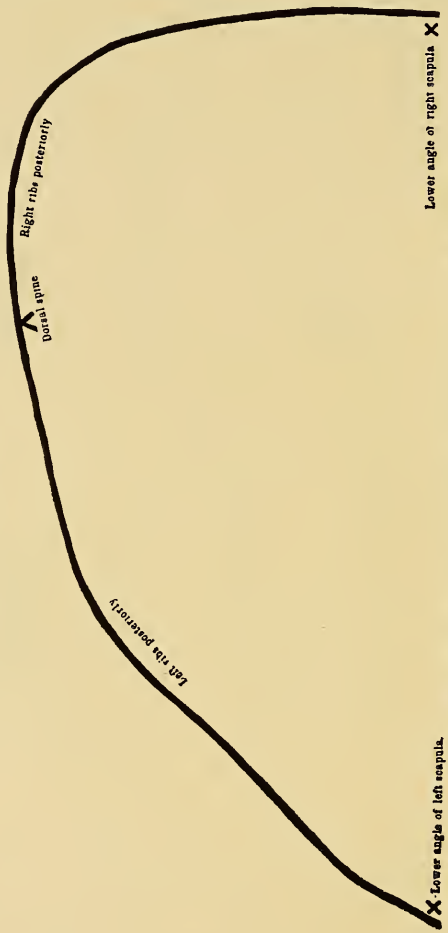


FIG. 42.

Mrs. A., aged fifty-seven years, July 27th, 1888 (reduced one-half linear).

time, she wrote: "I am very much better and stronger." This patient continued to suffer at intervals from the neuralgic pain in the back in spite of all remedies, but she was able to get about better, and to enjoy a sense of freedom which she had not experienced for nearly forty years. From the first day this lady consulted me she left off her spinal support, and never wore it again.

Like other patients, she felt very limp, as if she would fall to pieces, for a few days; but the spinal muscles soon

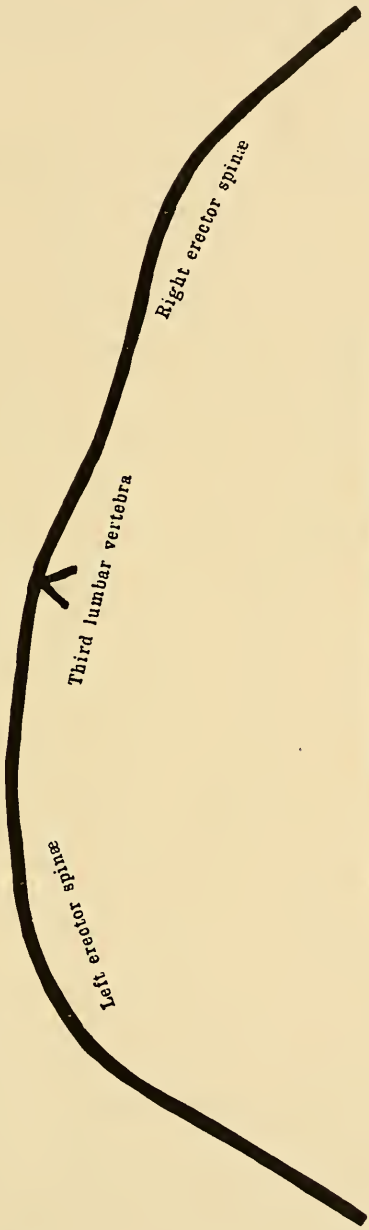


FIG. 43.

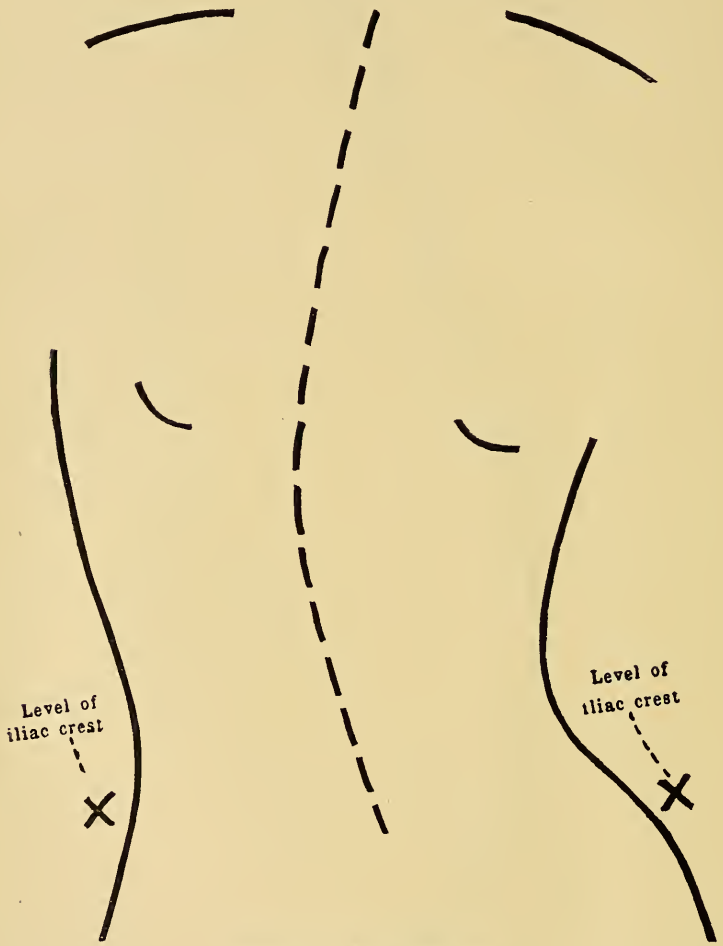
Mrs. A., aged fifty-seven years, July 27th, 1888 (actual size).

commence to do their duty, and it is seldom a patient has any desire to have a spinal support reapplied after

the first week or two of the daily treatment by "posture and exercise."

Case VIII. Miss M. M., aged forty-one years, came to me May 16th, 1894, with the history that, at twenty-

FIG. 44.



Miss M. M., May 16th, 1894.

one years of age, the same surgeon who had treated Case VII. had ordered her a steel spinal support, which she was still wearing, having, of course, had it renewed several times during the twenty years' treatment. Some eight years ago, the surgeon told the patient he could

do nothing more for her, beyond advising her to continue the spinal support, and this advice she followed.

"*Present state:* A tall, thin woman, who declares she can do nothing without the spinal support. The spine is curved with the whole convexity to the left (see fig. 44, giving a rough sketch of the back), while the left ribs posteriorly and the left erector spinæ muscle are both too prominent (see the scoliosiometric tracings, figs. 45 and 46). The spinal support and dress do not meet for four inches in front when she is placed in the best possible position." I at once removed the spinal support, which was of the usual type, with sub-axillary crutches. The patient left me at the end of the three months' daily treatment (seventy-two visits) greatly improved in every way. I heard from her on January 21st, 1895, when she wrote: "My general health is very good indeed. I am happy to say the pain in my back has almost entirely disappeared, and I am able to walk more than I have done for years. Your treatment has certainly done me an immense deal of good."

FIG. 45.

Miss M. M., aged forty-one years, May 16th, 1894 (reduced one-half linear).

I examined this patient for the last time on October 16th, 1897, upwards of three years since she ceased being under my personal daily treatment. There had been no further increase of the osseous deformity; the back looked

practically symmetrical, and the patient reported herself in the best of health.

Here, again, a victim to spinal supports for twenty years became a reformed character, as far as health, strength, and figure are concerned, by a comparatively short course (three months) of daily treatment.

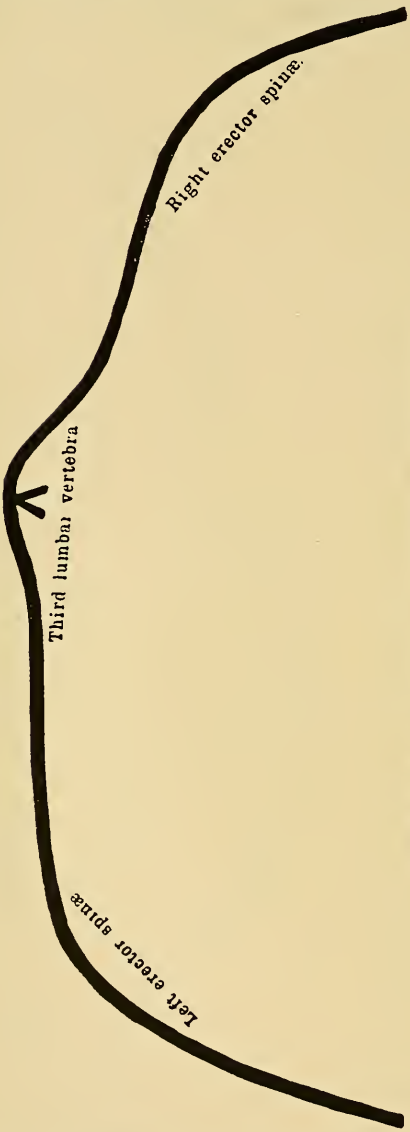


Fig. 46. Miss M. M., aged forty-one years, May 16th, 1894 (actual size).

Summary of Prognosis and Treatment.

1. If osseous deformity of the ribs and vertebræ be present, even to a slight extent, complete cure of the Lateral Curvature of the Spine is impossible.

2. Many cases of apparently severe Lateral Curvature of the Spine have no osseous deformity, and can be at once restored *temporarily* to a good position.

The Clinical Society's Committee on Lateral Curvature of the Spine classified all Lateral Curvatures as (1) *cases without osseous deformity*, and (2) *cases with osseous deformity*, according as there is or is not bony deformity present (see their Report in vol. xxi. of Clin. Soc. Trans. 1888, p. 301).

3. A patient with confirmed Lateral Curvature of the

Spine, with or without osseous deformity, is so habituated to the vicious position, that attempts on his or her part to improve the form of the spine, *except by the surgeon's directions*, generally increase the deformity.

4. Daily exercise of the spinal muscles is absolutely necessary to the successful treatment of Lateral Curvature.

5. Good or the best possible positions should be always assumed, not only at meals and at lessons, but whenever otherwise occupied. This is practicable in slight cases with ordinary high-backed chairs; in some cases with much backache, and especially in adult cases, a couch with horizontal seat, and movable and moulded back, is useful.

6. Special attention is to be directed to the dress (including stays, braces, etc.) in both sexes, so that it presents no obstacle to the expansion of the thorax anteriorly, and to the patient maintaining an improved or an erect position.

7. The feet should always be examined in cases of Lateral Curvature, as *flat-foot* is so frequently concurrent with the spinal deformity, and requires to be attended to at the same time.

8. A moderate amount of outdoor exercise, as bicycling, tennis, hockey, cricket, and walking, is most beneficial in helping to brace up the muscular system and to improve the general health.

9. Lying on the face or back does not tend to cure Lateral Curvature, as it does not strengthen the spinal muscles, having really the opposite effect of weakening them as the result of disease. Lying for fifteen or thirty minutes is useful when it rests the patient; but if it be continued for several hours daily, as still so frequently prescribed, only harm results from the physiological activity of the spinal muscles being prevented.

10. Steel spinal supports, Sayre's plaster-of-paris, or poro-plastic felt jackets are never to be employed, except in those rare cases of Lateral Curvature due to paralysis of the erectores spinæ muscles, and even in those cases, mechanical supports often fail to be of the slightest use.

11. The more attention is paid to the avoidance of vicious, and to the maintenance of good positions, and the

more carefully and conscientiously the patient carries out the prescribed exercises, the better and quicker are the results obtained.

12. Slight cases of Lateral Curvature of the Spine without any osseous deformity can generally be cured by one month's *daily* treatment (24 visits of three-quarters of an hour each) by "Posture and Exercise." Other cases, on an average, require three months' treatment (72 visits) for three-quarters of an hour daily, to effect either a cure in those cases which can be cured (*postural* or *non-osseous* cases), or the utmost improvement possible in others where there is more or less osseous deformity present (*osseous* cases). I attach the greatest importance to the word *daily*. Several surgeons, to my knowledge, have supposed themselves to be carrying out my treatment by seeing a patient once a week, or once a fortnight, relegating the treatment in the intervals to a relative or a nurse; as may be easily imagined, their results have been less successful than mine.

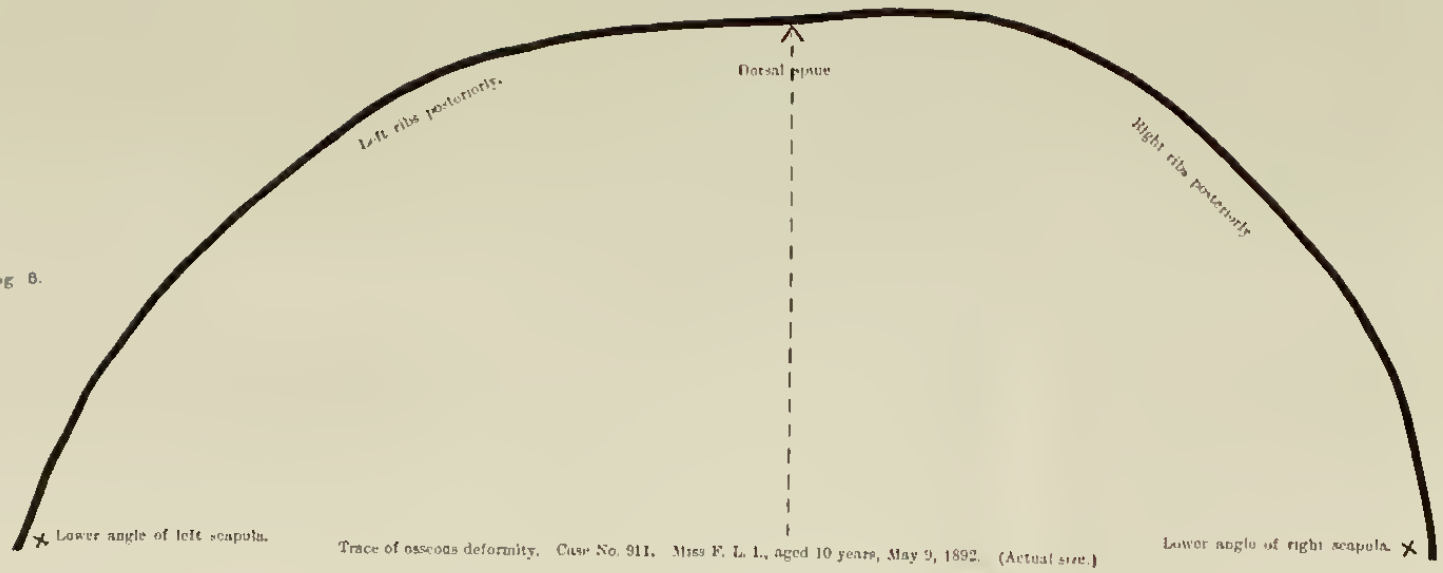
13. The age of the patient has little or nothing to do with the success of the treatment I employ; all that is required is the willing and persevering co-operation of the patient.

14. In all cases, constant attention to position and daily perseverance with a *Home Prescription* of prescribed exercises are required at home for at least a year, better for three years, afterwards, to confirm the cure or improvement and to prevent relapse.

15. Lastly, the conscientious carrying out for about three-quarters of an hour daily of the treatment by "Posture and Exercise," will enable surgeons to cure, or practically cure, the vast majority of cases of Lateral Curvature of the Spine on an average in three months from the commencement of the treatment.

16. I will conclude with an extract of a criticism in the *Lancet* of August 3rd, 1889, on the first edition of my book: "It is to be hoped, that the publication of this little book will do something to check the unscientific and often disastrous treatment of Lateral Curvature of the Spine by spinal supports and prolonged rest."

Fig. 6.



Trace of osseous deformity. Case No. 911. Miss F. L. L., aged 10 years, May 9, 1892. (Actual size.)

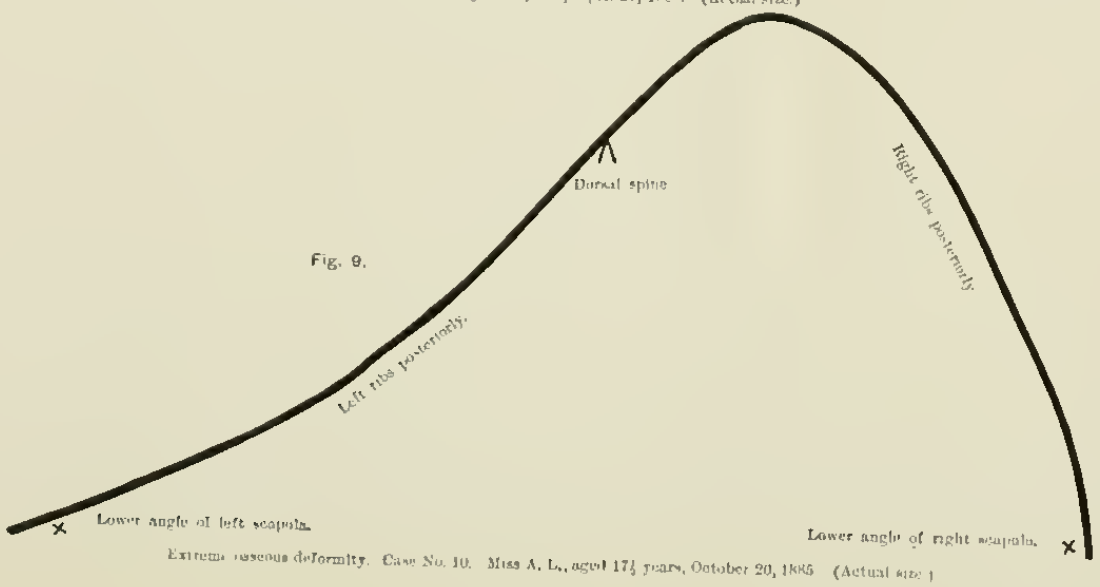
Fig. 7.

Moderate osseous deformity. Case No. 996. Aged 13 years. (Actual size.)

Fig. 8.

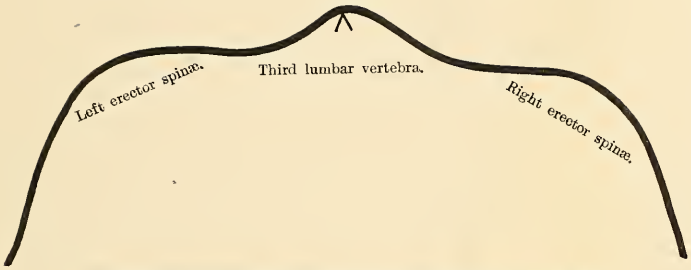
Severe osseous deformity. Case No. 224. Aged 16 years, April 27, 1888. (Actual size.)

Fig. 9.



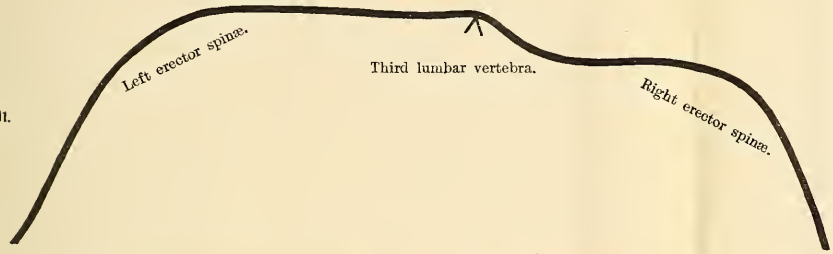
Extreme osseous deformity. Case No. 10. Miss A. L., aged 17½ years, October 20, 1885. (Actual size.)

Fig. 10.



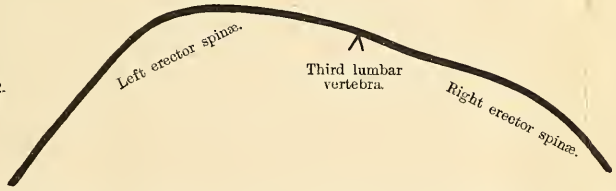
Trace of osseous deformity. Case No. 909. Aged 7¾ years. (Actual size.)

Fig. 11.



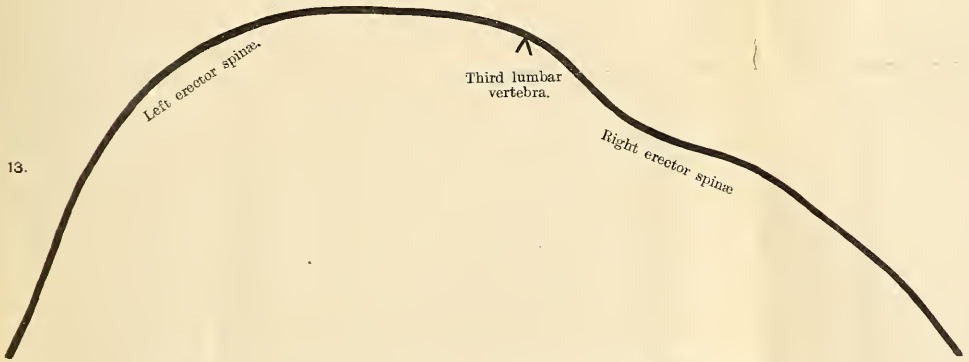
Moderate osseous deformity. Case No. 985. Aged 13 years. (Actual size.)

Fig. 12.



Severe osseous deformity. Case No. 10. Miss A. L., aged 17½ years, October 20, 1885. (Actual size.)

g. 13.



Extreme osseous deformity. Case No. 224. Aged 16 years, April 27, 1888. (Actual size.)

APPENDIX.

A SERIES OF
ONE THOUSAND CONSECUTIVE CASES
OF
LATERAL CURVATURE OF THE SPINE
(*SCOLIOSIS*)

WHICH WERE UNDER THE AUTHOR'S TREATMENT BY "POSTURE AND EXERCISE" IN PRIVATE PRACTICE FROM JULY 27, 1885, TO NOVEMBER 24, 1892, AND *SUBSEQUENT* TO A SERIES OF TWO HUNDRED CASES READ AT THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION IN 1885.

No.	Date.	Patient.	Sex.	Age brought to Author.	Duration of Scoliosis.	Causes of Scoliosis.	Description of Scoliosis.	Osseous Deformity.		Pain.	Flat-Foot.	Previous Treatment.	No. of visits under Author's Treatment.	Result of Author's Treatment.	Sent to Author by
								Ribs Posteriorly.	Erectores Spinæ.						
	1885														
1	June 27	D. S.	F.	12½	1 year	—	C	—	Left trace	—	Severe	Lying down 3 hours daily	72	Much improved (confirmed 1 year after)	Dr. E. Crew (Alderley Edge)
2	July 9	A. D.	F.	14	4 years	Always delicate	C	—	Left trace	—	Trace	—	48	Much improved (confirmed 1 year after)	—
3	,, 10	S. F. B.	F.	34	21 years	Very delicate	S	Right extreme	Left mod.	Severe	—	Steel support (3 years)	72	Much improved	—
4	Sept. 23	G. A.	F.	15	1 year	Rapid growth	C	—	Left trace	—	Trace	Lying down 3 to 4 hours daily	48	Much improved	—
5	,, 25	B.	F.	15	2 years	Mentally deficient	C	—	—	Mod.	Trace	—	48	Much improved	Late Dr. D. Matheson Mr. Arthur E. J. Barker
6	,, 26	K. M. F.	F.	22	8 years	Hereditary Two Sisters scoliotic See No. 117	S	Left (upper) mod., right (lower) mod.	Left mod.	Mod.	Moderate	Steel supports, plaster and felt jackets for 8 years, lying down 3 to 4 hours daily	96	Much improved (confirmed 8 years after)	
7	,, 29	H. U.	M.	9	¼ year	—	C	Left trace	Left mod.	—	Moderate	—	72	Much improved	—
8	,, 30	V. V.	F.	16	1 year	Delicate	S	Right trace	Left trace	—	Trace	—	48	Much improved (confirmed ½ year after)	Dr. P. Frank (Cannes)
9	Oct. 5	S. G. B.	F.	16	6 years	Congenital dislocation left hip Hereditary See Sister, No. 13	S	Right extreme	Left severe	Mod.	—	Steel supports (6 years)	49	Much improved (confirmed 3½ years after)	—
10	,, 20	A. L.	F.	17½	10½ y'rs	—	S	Right extreme	Left severe	—	—	Plaster and felt jackets, etc. (5 years)	72	Much improved (confirmed 10 years after)	Mr. C. B. Keetley
11	,, 27	M. S. P.	F.	25	10 years	Hereditary Three Cousins scoliotic	S	Right severe	Left mod.	—	Moderate	Steel supports (10 years)	72	Much improved (confirmed 3½ years after)	—
12	Nov. 4	L. H.	F.	16	1 year	Rapid growth	S	Right mod.	Left mod.	Slight	—	—	28	Improved	Dr. Thomas Maclagan
13	,, 21	A. B.	F.	17	2 years	Hereditary See Sister, No. 9	C	Left trace	Left trace	Slight	Trace	—	24	Much improved	—
14	,, 23	D. A. C.	F.	13	2 years	Rapid growth Scarlet fever	S	Left mod.	Right mod.	Mod.	Trace	—	72	Much improved (confirmed 10 years after)	—
15	,, 24	C. V.	F.	8	1 year	Always delicate	C	Right trace	Right trace	Slight	Trace	—	36	Much improved (confirmed 3½ years after)	—

16	Nov. 27 1886.	B. T.	F.	16	½ year	Delicate	S	Right severe	Left mod.	—	Trace	Lying down 1 hour daily	96	Much improved (confirmed 4 years after)	Late Sir A. Clark, Bart.
17	Jan. 5	I. F.	M.	12	—	Always delicate	C	—	Left trace	—	Moderate	—	48	Much improved	—
18	,, 11	L. B.	F.	16	1 year	Hereditary Father scoliotic	S	Right mod.	Left mod.	—	Moderate	Steel support	72	Much improved	—
19	,, 13	F. A.	M.	16½	2 mo's	Rapid growth Delicate	C	Right (anteriorly) severe, left trace	—	Slight	Trace	—	72	Much improved	Dr. Jowers (Brighton)
20	,, 16	O. S.	F.	13	3 mo's	Rapid growth	C	Left trace	Left mod.	—	Trace	—	72	Much improved (confirmed 9 years after)	Dr. A. T. Schofield
21	,, 18	M. M.	F.	21¾	—	Hereditary See Sisters, Nos. 28 and 30 General weakness	C	—	Left trace	Slight	Trace	—	58	Much improved (confirmed 1¼ year after)	—
22	,, 28	C. W. T.	M.	12	1 year	Squint	C	Left mod.	Left trace	—	Moderate	Felt jacket	72	Much improved (confirmed 4½ years after)	Dr. Thomas Barlow
23	,, 29	L. T.	F.	26¾	12 years	—	C	Right mod.	Right trace	Severe	Moderate	Steel support several years lying down 6 to 8 hours daily	72	Much improved (confirmed 8 years after)	Dr. Stephen Mackenzie
24	Feb. 1	F. B.	F.	21	Several months	Weak lungs	C	—	Left mod.	Severe	Trace	Lying down 2 to 3 hours daily	72	Much improved (confirmed 10 years after)	Dr. O. P. Tennant (Glasgow)
25	,, 2	T. B.	M.	2½	1 year	Seven months' child	S	Left severe	Right mod.	—	—	Lying down all day	24	Improved, followed by relapse	Mr. C. H. Marriott (Leicester)
26	,, 8	L. L.	F.	14	Few weeks	—	S	Right trace	Left trace	Slight	Moderate	—	24	Much improved (confirmed 9 years after)	—
27	,, 26	A. S.	F.	17	3 years	General weakness	S	Right mod.	Left mod.	Severe	—	—	24	Much improved (confirmed 1 year after)	Mr. N. P. Blaker (Brighton)
28	Mar. 15	C. M. M.	F.	13	3 years	Hereditary See Sisters, Nos 21 and 30 General weakness	S	Left trace	Right trace	Slight	—	Lying down 2 hours daily	72	Improved, then relapse	—
29	,, 17	K. A.	F.	35	23 years	General weakness	S	Right extreme	Left mod.	Severe	—	Steel support, plaster jacket several years	108	Much improved (confirmed 2 years after)	Dr. J. Holmes Joy (Tamworth)
30	,, 17	M. E. M.	F.	11	3 years	Hereditary See Sisters, Nos. 21 and 28	C	—	Left trace	—	Trace	—	72	Much improved (confirmed 1 year after)	—
31	,, 17	A. S.	F.	12	5 years	Typhoid fever	C	Left mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 5 years after)	—

No.	Date.	Patient.	Sex	Age brought to Author.	Duration of Scoliosis.	Causes of Scoliosis.	Description of Scoliosis.	Osseous Deformity.		Pain.	Flat-Foot.	Previous Treatment.	No. of visits under Author's Treatment.	Result of Author's Treatment.	Sent to Author by
								Ribs Posteriorly.	Erectores Spinæ.						
	1886														
32	Mar. 23	Mrs. D.	F.	67	42 years	—	S	Right mod.	Left extreme	Severe	—	—	72	Much improved	—
33	,, 31	N. B.	F.	16	2 years	Over-study	S	Right severe	Left mod.	Slight	Trace	Steel support 2 years	72	Much improved (confirmed ¾ year after)	Dr. Bransby Roberts (Eastbourne)
34	April 3	M. A. P.	F.	13	2 years	Rapid growth	C	—	Left trace	Mod.	Moderate	Lying 2 hours daily (2 years)	48	Much improved (confirmed 1 year after)	—
35	,, 16	M. T. B.	F.	13¾	3 years	Hereditary See Sister, No. 43	C	—	Left mod.	—	Trace	—	72	Much improved (confirmed 10 years after)	—
36	,, 17	R. G.	F.	23¾	Several years	Rapid growth Delicate	S	Right mod.	Left mod.	Severe	Trace	—	72	Much improved, then relapsed	Dr. Walter Kidd (Blackheath)
37	,, 24	A. N.	F.	10	—	Scarlet fever	S	—	Left trace	Slight	Trace	—	24	Much improved (confirmed 1 year after)	—
38	,, 28	A. S.	F.	12¾	7 years	Born in India	S	Right mod.	Left mod.	Slight	Trace	—	72	Much improved (confirmed 1 year after)	Dr. Collins (Sydenham)
39	,, 30	M. C.	F.	18¾	8 years	Scarlet fever	S	Right severe	Left mod.	Mod.	Trace	Steel supports (8 years)	72	Much improved (confirmed 1 year after)	—
40	May 1	H. M.	F.	11	4 years	Mother scoliotic	C	Left trace	Left mod.	—	Moderate	—	48	Much improved	—
41	,, 5	M. B.	F.	16	3 mo's	Rapid growth	S	Right trace	Left mod.	Severe	Severe	—	72	Much improved (confirmed 1 year after)	Dr. J. B. Collins (Yapton, Arundel)
42	,, 5	E. M.	F.	16¾	—	Slight infantile paralysis	S	Left trace	Right mod.	—	Trace	1 hour daily lying	72	Much improved (confirmed 1 year after)	—
43	,, 9	J. B.	F.	7¾	—	Hereditary See Sister, No. 35	C	—	—	—	Trace	—	72	Much improved (confirmed 10 years after)	—
44	,, 10	K. C.	F.	8¾	1½ year	General weakness Always delicate	S	Right trace	Left mod.	—	Trace	5 hours daily lying	48	Much improved (confirmed 6 years after)	—
45	,, 13	G. F.	F.	20	Several years	Always delicate	C	Left trace	Left trace	Severe	Trace	—	24	Much improved (confirmed 1 year after)	—
46	,, 19	L. U.	F.	11½	3 mo's	Hereditary See Sister, No. 832 Always delicate	S	Right trace	Left trace	Slight	Severe	—	72	Improved	Mr. H. Couling (Brighton)

47	May 31	F. S. D.	F.	16	3½ years	Hereditary See Cousin, No. 182	S	Left trace	Right mod.	—	Trace	Felt jacket 2 years	72	Much improved (confirmed 1 year after)	Mr. Athol Johnstone (Brighton)
48	June 1	H. R.	F.	33	Several years	Delicate	C	Left trace	—	Severe	Trace	—	72	Much improved (confirmed 10 years after)	—
49	,, 7	C. G.	F.	15	All her life	Rapid growth Hereditary Mother scoliotic	C	—	—	Mod.	Trace	—	72	Improved, followed by relapse	—
50	,, 7	O. H.	F.	6½	1 year	Rapid growth	C	Left trace	Left trace	—	—	—	72	Much improved (confirmed 9 years after)	Mr. C. Heath
51	,, 10	E. R.	F.	30	15 years	Neurotic	C	Right mod.	Right mod.	Severe	Trace	Steel support	72	Much improved (confirmed 1 year after)	Late Sir A. Clark, Bart.
52	,, 11	C. N.	F.	16	2 years	Rapid growth	C	Right trace	Right trace	Severe	—	—	48	Much improved	Mr. William Heath (Southport)
53	,, 17	E. C. K.	F.	19	½ year	Rheumatoid arthritis	S	Right trace	Left mod.	—	Moderate	—	72	Much improved	—
54	,, 18	U. L.	M.	12	1 year	General weakness	S	—	—	—	Moderate	—	36	Much improved	—
55	,, 27	Mrs. P. H.	F.	23	9 years	—	S	Right severe	Left severe	Severe	Trace	—	24	Much improved	—
56	July 1	M. R.	F.	23	9 years	Always delicate	S	Right mod.	Left mod.	Severe	—	—	72	Much improved (confirmed 3 years after)	Dr. Uhthoff (Brighton)
57	,, 6	E. C.	F.	14	3 mo's	Hereditary Mother scoliotic	C	Right trace	Right trace	—	Moderate	—	24	Much improved (confirmed 3 years after)	—
58	,, 7	V. W.	F.	13	4 mo's	Rapid growth	C	Right trace	—	—	Trace	1 hour lying down daily	48	Much improved	Late Sir A. Clark, Bart.
59	Sept. 6	E. H.	F.	10	2 mo's	Whooping cough	C	—	Left trace	Slight	Trace	—	72	Much improved	Dr. Uhthoff
60	,, 6	C. D.	F.	8½	—	See Brother, No. 61 Hereditary Mother scoliotic	C	—	Left trace	—	Trace	—	72	Much improved (confirmed 1½ year after)	—
61	,, 6	L. D.	M.	10	1½ year	See Sister, No. 60 Hereditary Mother scoliotic	C	Left trace	Left mod.	—	Trace	—	72	Much improved (confirmed 10 years after)	—
62	,, 7	E. P.	F.	11¾	5¾ years	Hereditary Mother scoliotic	S	Right mod.	Left severe	Slight	Trace	Felt jacket 1½ year	96	Improved, followed by relapse	—
63	,, 8	C. S. B.	M.	17½	2 years	Always delicate	C	—	Left trace	Severe	Trace	—	12 weekly	Much improved (confirmed 10 years after)	Dr. Evershed (Hampstead)
64	,, 8	E. A.	F.	8	2 years	Always delicate	S	Right severe	Left mod.	—	—	—	72	Much improved, then relapse after pneumonia	—
65	,, 8	G. G.	F.	15	2 years	Rapid growth	C	Left trace	Left mod.	Slight	Trace	2 hours daily lying	72	Much improved (confirmed 1½ year after)	—

No.	Date.	Patient.	Sex	Age brought to Author.	Duration of Scoliosis.	Cause of Scoliosis.	Description of Scoliosis.	Osseous Deformity.		Pain.	Flat-Foot.	Previous Treatment.	No. of visits under Author's Treatment.	Result of Author's Treatment.	Sent to Author by
								Ribs Posteriorly.	Erectores Spinæ.						
	1886														
66	Sept. 9	E. K. M.	F.	10	4 years	Always delicate	C	—	—	—	Moderate	—	72	Much improved (confirmed 5 years after)	Dr. Marriott (Leicester)
67	,, 15	D. S.	F.	10½	1 year	Delicate	C	Left trace	Left trace	—	—	—	48	Much improved	—
68	,, 17	A. M. M.	F.	20	10 years	Always delicate	S	Right severe	Left severe	Severe	Moderate	Steel stays, plaster jacket, felt jacket, etc., 10 years	72	Much improved (confirmed 6 months after)	—
69	,, 18	T. R.	M.	8	2 mo's	Prematurely born	S	Left severe	Right trace	—	Severe	—	72	Much improved, then relapse	Dr. Flint (Scarborough)
70	,, 20	G. R.	F.	17	5 years	Always delicate Over-study	C	—	Left mod.	—	—	Steel support 3 years	48	Much improved	—
71	,, 20	E. V.	F.	17	1 year	Rapid growth	C	Right mod.	Right mod.	Severe	Severe	Lying 1 hour daily	72	Much improved	—
72	,, 27	G. C.	F.	15	1 year	Brother scoliotic Delicate	S	Right (above) mod. left (below) extreme	Right extreme	—	Severe	Plaster jacket 3 months, felt jacket 9 months, also 4 hours daily lying	72	Improved, followed by relapse	—
73	,, 30	M. F.	F.	15	1 year	Always delicate	S	Right mod.	Left mod.	—	Severe	—	48	Much improved	Dr. J. H. Clarke
74	Oct. 1	M. H.	F.	17	7 years	After scarlet fever	S	Right severe	Left trace	Mod.	Severe	Steel support 5 years	72	Much improved (confirmed 1 year after)	—
75	,, 8	A. R. S.	M.	5½	—	Always delicate	C	—	—	—	Moderate	—	26	Much improved (confirmed 1 year after)	Dr. W. T. Law
76	,, 9	R. S.	F.	20	5 years	Always delicate	C	—	Left severe	Extreme	Trace	—	72	Much improved, after stretching sciatic nerve (confirmed 2½ years after)	D. A. Davidson (Brighton)
77	,, 9	M. E. W.	F.	16	5 years	Always delicate	S	Right severe	Left mod.	—	Moderate	Steel support 2 years day and night	72	Improved, followed by relapse	Dr. R. Neale
78	,, 11	D. P.	F.	11¾	2 years	Left empyema	S	Right severe	Left mod.	—	Trace	Steel support 6 months	144	Slight improvement, then relapse	—
79	,, 12	H. H.	F.	14¾	2 years	Always delicate See Brother, No. 93 Hereditary	C	—	Left trace	Severe	Trace	—	97	Much improved (confirmed 8 years after)	—
80	,, 14	F. T.	F.	13¼	5 years	Rapid growth Always delicate	S	Right mod.	Left mod.	—	Trace	—	72	Much improved	—

81	Oct. 15	M. D.	F.	15	2 years	Scarlet fever	S	Right severe	Left mod.	—	—	—	72	Much improved	Dr. Julia Cock
82	,, 15	E. P.	F.	15	3 years	Sister has scoliosis	S	Right (above) mod., left (below) severe	Left mod.	—	Mod.	—	72	Much improved	Dr. E. A. Neatby
83	,, 18	H. B.	M.	15¾	8 years	Always delicate Typhoid fever	S	Right extreme	Left severe	Severe	—	Steel supports 2 years	72	Much improved (confirmed several years after)	—
84	,, 18	O. C. H.	M.	11¾	—	Pneumonia	C	—	Left mod.	—	Mod.	—	48	Much improved (confirmed 2½ years after)	Late Dr. Mackechnie
85	,, 20	E. S.	F.	13	7 years	—	S	Right severe	Left mod.	Mod.	—	Steel support 1 year	72	Much improved	Dr. Mackenzie Skues
86	,, 20	M. H.	F.	14	1 year	Abscess in left arm	C	—	—	Mod.	—	—	72	Much improved	Dr. Thos. Barlow
87	,, 22	L. R.	F.	17	4 years	—	S	—	Left mod.	—	—	Steel support 2 years	48	Much improved	—
88	,, 22	K. S.	F.	13	1½ year	Always delicate	C	Right (anteriorly) mod.	—	—	—	Lying down 2 hours daily	72	Much improved (confirmed 2 years after)	—
89	,, 31	T.	F.	16	3 years	Right pneumonia	C	Left trace	—	—	—	Prone lying 5 hours daily	72	Improved	Dr. Uhthoff (Brighton)
90	Nov. 5	B. M. W.	F.	18	6 years	Rapid growth	S	Right severe	Left severe	—	—	Lying down all day	72	Much improved (confirmed 8 years after)	—
91	,, 6	V. B.	F.	16	5 years	Always delicate	C	—	Left mod.	Severe	—	—	116	Much improved	Dr. Marriott (Leicester)
92	,, 12	L. H.	F.	18	1 year	Defective sight	C	—	Left trace	—	—	—	24	Much improved	—
93	,, 15	P. H.	M.	16	—	Hereditary See Sister, 79	S	Left mod.	Left mod.	Severe	Mod.	—	48	Much improved (confirmed 8¾ years after)	—
94	,, 17	F. S.	F.	21	6 years	Always delicate Neurotic	C	Right severe	Right trace	Severe	—	Steel support	72	Not improved	Dr. H. Lankester
95	,, 19	D. C.	F.	11½	—	Delicate after brain concussion See Sisters, Nos. 105 and 902	C	Right trace	Right mod.	Slight	—	—	48	Much improved	Dr. Dyce-Brown
96	,, 23	A. E. W.	F.	23	10 years	Always delicate	C	Left trace	—	Severe	Mod.	Steel support	72	Much improved (confirmed 1½ year after)	—
97	,, 25	E. M. D.	F.	18	—	Always delicate	S	Right extreme	Left severe	—	—	Felt jacket 2 years	83	Much improved (confirmed 1 year after)	—
98	,, 27 (Nov. 3, 1888.)	G. F.	F.	7	5 years	Delicate	C	Left mod.	Left mod.	—	—	—	36	Much improved	Dr. L. Huntley (Brighton)
99	Nov. 28	M. C.	F.	13	6 years	Very delicate	S	Right severe	Left severe	Mod.	—	Steel support 2 years	96	Improved, then relapse	Late Dr. Griffith (Brighton)

No.	Date.	Patient.	Sex	Age brought to Author.	Duration of Scoliosis.	Cause of Scoliosis.	Description of Scoliosis.	Osseous Deformity. Ribs Posteriorly.	Osseous Deformity. Erectores Spinæ.	Pain.	Flat-Foot.	Previous Treatment.	No. of visits under Author's Treatment.	Result of Author's Treatment.	Sent to Author by
100	1886 Dec. 7	F. N.	F.	9	—	—	C	Left trace	—	—	—	—	24	Much improved (confirmed 1 year after)	—
101	,, 10	E. C.	F.	8	1 year	Born in India, remained 6 years	C	—	Left trace	—	Mod.	Lying down 1 hour daily	72	Much improved (confirmed 2 years after)	—
102	,, 12	C. B. T.	F.	12½	—	Severe whooping cough	S	Right mod.	Left trace	—	Mod.	—	72	Improved (followed by relapse)	Mr. H. Couling (Brighton)
103	1887 Jan. 3	W. T. K.	M.	10½	—	General weakness	C	Left trace	Left trace	—	—	—	48	Much improved	Dr. Uhthoff
104	,, 14	A. H.	F.	18	1½ year	Rapid growth	C	Left trace	Left trace	—	—	Steel support 1 year	48	Much improved	Dr. Fraser Stokes
105	,, 14	M. C.	F.	10	—	Always delicate See Sisters, Nos. 95 and 902	C	—	Left trace	Slight	Mod.	—	24	Much improved (confirmed 1 year after)	Dr. Dyce-Brown
106	,, 17	M. H.	F.	17	3 years	Rapid growth	S	Right severe	Left mod.	—	Mod.	Steel support 1 year	72	Much improved	—
107	,, 18	M. M.	F.	13	2 years	Pneumonia and pleurisy following rheumatic fever Sister of No. 108	S	Right trace	Left mod.	Mod.	Mod.	Steel support 1 year	12	Much improved (confirmed 4 years after)	—
108	,, 22	F. H. M.	M.	8¾	—	Always delicate Brother of No. 107	C	Right (anteriorly) mod.	—	—	Mod.	—	72	Much improved (confirmed 4 years after)	—
109	,, 24	A. L. Q.	F.	30	19 years	—	S	Right severe	Left severe	Extreme	Mod.	Steel support 3½ years	151	Much improved	Dr. Le Quesne (Tring)
110	,, 24	M. M.	F.	23	4 years	—	S	Left (upper) trace, right (lower) severe	Left mod.	Severe	—	3 hours daily lying	72	Much improved	—
111	,, 26	H. V. H.	F.	7	4 years	Hereditary See Sister, No. 818 Always delicate Pneumonia	C	—	Left trace	Slight	Mod.	—	72	Much improved	Dr. Dyce-Brown
112	,, 28	K. H.	M.	17	—	Rapid growth	C	—	—	Slight	—	—	24	Much improved	—
113	,, 29	C. S.	M.	15¾	1 year	Always delicate	C	Left trace	Left severe	Mod.	—	—	72	Much improved (confirmed 1 year after)	Dr Giffard (Brighton)
114	,, 31	L. D.	F.	10½	—	Always delicate	C	—	Left trace	—	Trace	—	24	Much improved	Dr. Dyce-Brown

115	Feb. 1	L. F.	F.	13	—	—	C	—	Left trace	—	Trace	—	24	Much improved (confirmed 1 year after)	—
116	,, 8	D. S.	F.	$11\frac{3}{3}$	—	—	C	Right trace	Right trace	—	Trace	—	72	Much improved	Dr. Dyce-Brown
117	,, 9	M.I.C.F	F.	25	12 years	Hereditary See Sister, No. 6	S	Right severe	Left mod.	Severe	Trace	Steel support 7 years, felt and plaster jacket 5 years	72	Much improved	Mr. Arthur E. J. Barker
118	,, 25	B. K.	F.	8	1 year	—	C	—	Left trace	—	Mod.	—	72	Much improved	—
119	Mar. 1	G. W.	F.	$7\frac{3}{4}$	$\frac{1}{2}$ year	Always delicate	C	—	Left trace	—	—	—	96	Improved, followed by relapse	—
120	,, 5	S. B.	F.	$12\frac{1}{2}$	2 years	Rheumatic fever 3 years ago	C	—	—	Severe	Mod.	—	72	Much improved	Dr. Crosskey (Lewes)
121	,, 8	M. O.	F.	$14\frac{3}{4}$	1 year	Rapid growth	C	Left trace	Left mod.	—	Moderate	—	72	Much improved	Dr. Giffard (Brighton)
122	,, 9	D. W.	F.	12	$\frac{1}{4}$ year	Always delicate	S	Right trace	Left mod.	Mod.	Moderate	—	72	Much improved	Dr. Marriott (Leicester)
123	,, 11	M. E. K. C.	F.	15	3 years	Rapid growth	S	—	Right mod.	—	Moderate	—	40	Much improved	Mr. C. Heath
124	,, 11	C. G.	M.	$9\frac{3}{4}$	—	Rapid growth	C	—	Left mod.	—	Trace	—	72	Much improved	Dr. Shackleton (Sydenham)
125	,, 16	B. S.	F.	$11\frac{3}{4}$	1 year	Hereditary Mother scoliotic	S	Right mod.	Left severe	—	—	—	48	Much improved	—
126*	,, 22	E. H.	M.	$14\frac{3}{4}$	$\frac{1}{4}$ year	—	C	Left severe	Left severe	—	Trace	—	72	Much improved	Dr. F. J. Waring (Brighton)
127	,, 23	O. S. W.	M.	$7\frac{3}{4}$	—	Very delicate	C	—	—	Mod.	Trace	—	72	Much improved	—
128	,, 28	E. H. C. C.	F.	18	—	Hereditary 2 Cousins scoliotic	C	—	Left mod.	Slight	Trace	—	48	Much improved	—
129	April 2	K. W.	F.	$15\frac{3}{4}$	3 years	Rapid growth	S	Right severe	Left trace	Severe	Moderate	2 hours daily lying for 2 years	144	Much improved	—
130*	,, 4	H. H. T.	F.	$12\frac{1}{2}$	—	Always delicate	C	Left mod.	Left severe	Slight	Moderate	Felt jacket	72	Much improved (confirmed 1 year after)	—
131	,, 13	J. B.	F.	17	—	Rapid growth Bronchitis	C	Left trace	Left mod.	—	Trace	—	48	Much improved	—
132*	,, 22	G. W.	F.	25	15 years	Always delicate	S	Left severe	Right severe	Severe	Trace	Steel supports 6 years	72	Much improved (confirmed 5 years after)	Late Dr. M. Reed (Tottenham)
133	,, 24	L. L.	F.	14	8 years	Delicate Bad eyesight	S	Right severe	Left mod.	Severe	Moderate	Steel and felt supports 8 years	72	Much improved (confirmed 7 years after)	—
134	,, 26	H. H.	F.	16	—	Hereditary Sister and 2 Brothers scoliotic	S	—	Left mod.	—	—	—	26	Much improved	—
135	,, 29	Mrs. A.	F.	25	12 years	—	C	Right severe	Right mod.	—	Moderate	Plaster jacket 3 years	24	Much improved	—

* Scoliosis Committee of Clinical Society.

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								Ribs Posteriorly.	Erectores Spinæ.						
	1887														
136	May 5	H. H.	F.	16	1½ year	Rapid growth	C	Left trace	—	—	Trace	—	24	Much improved	—
137	,, 11	E. S.	F.	25	5 years	Rapid growth	S	Right mod.	Left mod.	Severe	Trace	8 hours daily lying	72	Much improved	Dr. Marriott (Leicester)
138	,, 13	I. R.	F.	23	3 years	—	S	—	Right mod.	Severe	Moderate	—	48	Much improved	Dr. Hughes (Brighton)
139	,, 17	A. M. B.	F.	17	1½ year	Rapid growth	C	—	Left mod.	Severe	Trace	—	48	Much improved	—
140	,, 17	M. W.	F.	8	1 year	Always delicate	C	—	—	—	Moderate	—	72	Much improved	—
141	,, 17	Mrs. T.	F.	27	6 years	—	C	—	—	Severe	—	Lying down all day	80	Much improved	—
142	,, 19	E. S.	F.	34	13 years	Phthisis	C	—	—	Severe	Moderate	—	72	Improved, then relapse	Mr. N. Davies-Colley
143	June 4	B. T.	M.	6	—	Hereditary Prematurely born See Mother, No. 141	C	—	Left mod.	—	Moderate	—	30	Much improved (confirmed 6 years after)	—
144	,, 11	I. V.	M.	31	—	Always delicate	C	Left trace	Left trace	Severe	—	—	12 weekly	Much improved (confirmed 3 years after)	—
145	,, 14	H. C.	F.	16	8 years	Always delicate	S	—	Left mod.	—	Moderate	Plaster jacket, steel support 8 years	72	Much improved	Dr. Gray (Blackburn)
146	,, 15	V. C.	F.	16	2 years	Hereditary Mother scoliotic	C	Right mod.	Right severe	—	Moderate	—	72	Much improved	Mr. C. Heath
147	,, 16	F. W.	F.	11	1 year	Hereditary 2 Sisters scoliotic Sister of Nos. 149 and 150	C	Right mod.	Right mod.	—	Trace	—	25	Improved, then relapse	—
148	,, 22	D. F.	F.	12	—	Always delicate	C	—	Left trace	Mod.	Moderate	—	74	Much improved	Dr. Dyce-Brown
149	,, 22	M. W.	F.	7¾	—	Defective eyesight Hereditary 2 Sisters scoliotic See Nos. 147 and 150	C	—	—	—	—	—	27	Improved	—
150	,, 28	A. W.	F.	14½	—	Hereditary 2 Sisters scoliotic See Nos. 137 and 149	C	—	Left mod.	—	Trace	—	48	Much improved	—
151	,, 30	M. K. S.	F.	35	24 years	Hereditary Brother scoliotic	S	Right severe	Left mod.	—	—	Spinal supports 24 years	72	Much improved	—
152	July 6	E. D.	F.	14	1 year	Rapid growth	S	Left mod.	Left mod.	—	Moderate	Steel support 1 year	72	Much improved	Dr. C. D. F. Phillips

153	July 8	I. W.	F.	10	—	Rapid growth	C	—	Left mod.	—	—	—	24	Much improved	—
154	,, 27	L. B.	F.	23	2 years	Delicate	C	Right mod.	—	Severe	Severe	—	72	Much improved	Dr. C. C. Fuller
155	,, 27	T. C.	F.	$5\frac{3}{4}$	$2\frac{1}{2}$ years	Very delicate	S	Right (above) trace, left (below) mod.	—	—	Severe	Steel support 1 year	72	Improved	—
156	Sept. 11	Mrs. H.	F.	45	—	—	C	—	—	Severe	—	Felt jacket	72	Much improved	—
157	,, 15	E. F.	F.	14	1 year	Neurotic	C	—	Left trace	Severe	Moderate	—	96	Not improved	—
158	,, 17	I. S. G.	F.	12	4 years	Rapid growth After whooping cough	C	Left trace	Left mod.	Slight	Severe	—	72	Much improved	—
159	,, 19	M. D.	F.	15	4 years	Rapid growth	C	—	—	—	Trace	Lying down altogether for 6 months	72	Improved	—
160	,, 21	A. M.	F.	29	10 years	—	C	Right mod.	Right mod.	Severe	Trace	Steel support 2 years	72	Much improved	Dr. H. Wheeler (Clapton)
161	,, 23	G. D. M.	F.	6	—	Delicate	C	—	—	—	—	—	24	Much improved	Mr. Thomas Cooke
162	,, 23	W. H.	F.	20	4 years	Over-study	S	—	Left severe	Severe	Trace	—	72	Improved	Dr. Wheeler (Clapton)
163	,, 23	R. R.	F.	16	4 years	—	S	Right mod.	Left mod.	Slight	Severe	Leather and steel supports 2 years	72	Much improved (confirmed 7 years after)	—
164	,, 24	A. R.	F.	15	1 year	Hereditary Maternal Grandmother, Mother, and eldest Sister, all scoliotic	C	Right severe	Left mod.	—	Moderate	—	48	Much improved	—
165	,, 27	A. E. W.	M.	12	—	Very delicate Brother of No. 166	C	—	Left trace	—	Moderate	—	48	Much improved	Dr. G. V. Blunt (Birmingham)
166	Oct. 1	I. W.	F.	$12\frac{3}{4}$	$\frac{1}{2}$ year	Hereditary Sister of No. 165	C	—	—	Slight	Moderate	Lying down 1 hour daily	48	Much improved	—
167	,, 1	G. H.	F.	$16\frac{1}{2}$	7 years	Very delicate	C	—	Left trace	Slight	Moderate	—	48	Much improved (confirmed 1 year after)	Dr. Dyce-Brown
168	,, 3	B.	F.	15	9 years	Delicacy and rapid growth	S	Right mod.	Left severe	Mod.	Moderate	Steel and felt jackets for 9 years	72	Much improved (confirmed 1 year after)	Dr. Edgar Barker
169	,, 5	E. H.	F.	$16\frac{1}{2}$	4 years	Violin playing 2 years	C	Right trace	Right mod.	Slight	—	—	48	Much improved	Dr. Julia Cock
170	,, 5	E. K. C.	F.	16	10 years	Hereditary 2 Cousins scoliotic	S	—	Right mod.	—	—	—	48	Much improved (confirmed $\frac{1}{2}$ year after)	—
171	,, 6	N. F.	F.	$13\frac{3}{4}$	—	Born in India	S	Right mod.	Left mod.	Slight	Moderate	5 to 6 hours daily lying	72	Much improved (confirmed $2\frac{1}{2}$ years after)	—
172	,, 12	B. S.	F.	15	5 years	Rapid growth and Measles	S	Right severe	Left trace	Slight	Moderate	—	72	Much improved	Mr. H. Couling (Brighton)

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173	Oct. 14	H. F.	F.	18¾	8 years	Piano 8 hours daily	C	Left trace	Left mod.	Severe	Trace	1 hour daily lying	72	Much improved (confirmed 4 years after)	Late Dr. Buck (Camden Road)
174	,, 14	A. I.	F.	27	12 years	"Low fever"	C	Left trace	Left mod.	Severe	—	—	72	Much improved (confirmed 2 years after)	Dr. Heywood Smith
175	,, 21	M. Y.	F.	21	5 years	—	C	Left trace	—	—	Trace	2 hours daily lying	12	Improved	—
176	Nov. 15	L. R.	F.	15	1 year	Sister of No. 177 Rapid growth Measles	C	Left mod.	Left trace	Slight	Moderate	1 hour daily lying	72	Much improved	Dr. Crewe (Alderley Edge)
177	,, 15	W. R.	F.	9¾	3 mo's	Sister of No. 176 Whooping cough	C	—	—	—	Trace	—	24	Much improved	—
178	,, 17	F. D.	F.	13	1 year	Jaundice	S	—	Left trace	—	Moderate	4 to 5 hours daily lying	24	Much improved	Dr. A. S. Cumming (Edinburgh)
179	,, 19	E. P.	F.	37	4 years	—	C	—	—	Severe	—	—	24	Much improved	—
180	,, 26	L. G.	F.	19	3 years	Rapid growth Always delicate	C	—	—	Severe	Trace	Felt jacket 1 year	72	Much improved (confirmed 1½ year after)	—
181	,, 28	A. P.	F.	18	4 years	Rapid growth	C	—	Left trace	Slight	Moderate	—	36	Much improved	—
182	Dec. 7	C. S. D.	F.	16½	2½ years	Rapid growth See Cousin, No. 47	S	Left (above) trace, right (below) mod.	Left mod.	—	—	Lying down all day	48	Much improved (confirmed 1 year after)	Dr. Manser (Tunbridge Wells)
183	,, 9	M. H. A.	F.	19	3 years	Hereditary See Sister, No. 738 Rapid growth	S	Right severe	Left severe	Slight	Moderate	4 hours daily lying	60	Much improved (confirmed 5 years after)	Dr. D. O. Fountaine (Camden Road)
184	,, 10	N. R.	F.	23	7 years	—	C	Right mod.	—	Severe	Trace	—	36	Much improved (confirmed 2½ years after)	—
185	,, 19	E. S.	F.	15½	3 years	—	C	—	—	Severe	Trace	2 hours daily lying	48	Much improved (confirmed ½ year after)	—
	1888														
186	Jan. 2	E. B.	F.	18	5 years	—	S	—	Right severe	Severe	—	—	72	Much improved (confirmed 4 years after)	Dr. Shackleton (Sydenham)
187	,, 6	T. C. W.	M.	16	½ year	Rapid growth	C	—	—	—	Moderate	—	12 weekly	Much improved (confirmed 6 years after)	Dr. W. Kidd (Blackheath)

188	Jan. 16	E. G.	F.	14¾	1 year	Rapid growth	C	—	Left trace	Slight	Trace	—	48	Much improved (confirmed ½ year after)	—
189	,, 20	A. M.	F.	7½	—	Rapid growth	C	—	Left mod.	—	Trace	—	32	Much improved (confirmed 3 years after)	—
190	,, 20	H. D. C.	M.	12	—	Pneumonia Always delicate	C	—	—	—	Moderate	—	72	Much improved	—
191	,, 25	S. M.	F.	14¾	—	Rapid growth	C	—	—	—	Moderate	—	12	Much improved (confirmed 1 year after)	—
192	,, 25	I. B.	F.	14¾	—	Rapid growth	C	—	—	Slight	Moderate	—	24	Much improved (confirmed 1 year after)	—
193	,, 28	L. E.	F.	19	3½ years	Severe measles	C	Right mod.	Left trace	Severe	Moderate	2 hours daily lying	48	Much improved (confirmed 1 year after)	Dr. Clifton (Leicester)
194	,, 30	M. C.	F.	8	1 year	Whooping cough	C	—	—	—	Moderate	—	21	Much improved	Dr. Julia Cock
195	,, 30	L. A.	F.	9	—	Measles	C	—	—	—	Trace	—	24	Much improved	—
196	,, 31	E. I. P.	F.	14	—	—	C	Right mod.	Left mod.	Slight	Moderate	—	72	Much improved	—
197	Feb. 8	E. H. N. S.	F.	20	12 years	Neurotic	C	—	Left mod.	Severe	Moderate	—	72	Not improved	Mr. Buckston Browne
198	,, 9	K. B.	F.	11	2 years	—	C	—	Left mod.	—	Trace	—	48	Much improved	Dr. Dyce-Brown
199	,, 13	S. H.	M.	7	—	Delicate	C	—	—	—	Moderate	—	24	Much improved	Dr. Dyce-Brown
200	,, 16	B. D.	F.	15½	½ year	Rapid growth	C	—	—	—	Trace	—	24	Much improved (confirmed 1 year after)	—
201	,, 22	E. J.	F.	8	½ year	—	S	Left mod.	Right trace	Slight	Moderate	Lying down 1 hour daily	50	Much improved	Dr. Julia Cock
202	,, 27	J. H.	F.	18	10 years	Always delicate Rapid growth	S	—	Left mod.	Severe	Trace	—	38	Much improved	Sir W. Broadbent, Bart.
203	Mar. 6	R. C.	F.	11¾	4 years	One of twins	S	Right severe	Left mod.	—	Trace	—	24	Improved	Mr. W. H. Bennett
204	,, 7	G. B.	F.	20	10 years	Rapid growth	S	Right severe	Left trace	—	—	Spinal support several years	72	Much improved (confirmed 2 years after)	—
205	,, 9	T. C.	F.	14½	½ year	Measles Rapid growth	S	Right mod.	Left mod.	—	—	—	72	Much improved	—
206	,, 13	C. C.	F.	13	¾ year	Rapid growth	C	—	—	—	Trace	—	24	Much improved	Dr. Stanley Smith
207	,, 14	A. C.	F.	15	5 years	Delicate Rapid growth	C	—	—	—	Trace	Lying down 1 hour daily	72	Much improved (confirmed 1 year after)	Dr. Marriott (Leicester)
208	,, 14	C. P.	M.	17	—	Very tall (6 ft. 2½ in.)	C	Left trace	Left mod.	Slight	Trace	—	36 (alternate days)	Much improved	Dr. Walter Kidd
209	,, 29	D. M.	M.	14½	4 years	Scarlet fever	C	Left trace	Left mod.	—	Trace	—	24	Much improved	—

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	1888														
210	Mar. 29	E. B.	F.	17	1 year	Delicate	C	—	—	Slight	Moderate	—	72	Much improved	Dr. Dyce-Brown
211	Apr. 4	U. A.	F.	16	—	Hereditary Mother and paternal Aunt scoliotic	C	—	—	Severe	Trace	Lying down 2 hours daily	48	Much improved (confirmed 4 years after)	—
212	,, 5	E. U.	F.	6	—	—	C	—	Left mod.	—	Trace	—	72	Much improved	Dr. Shackleton (Sydenham)
213	,, 6	W. S. W.	M.	3½	—	Whooping cough	C	—	Left mod.	—	Trace	—	24	Much improved (confirmed 1 year after)	Dr. C. S. Watson and Dr. T. Barlow
214	,, 9	E. B.	F.	16½	3 years	—	S	Right mod.	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 1 year after)	Dr. Elizabeth Garrett Anderson
215	,, 12	T. G.	F.	17¾	1 year	Born in India, there 4 years	C	Left mod.	Left severe	Severe	Trace	—	72	Much improved (confirmed 3 years after)	Dr. Uthoff (Brighton)
216	,, 13	H. M. E. B.	F.	18	2 years	Rapid growth	S	Right mod.	Left mod.	Slight	Trace	—	72	Much improved (confirmed 3 years after)	—
217	,, 17	W. G.	M.	16	—	Always delicate	S	Right mod.	Left mod.	—	Trace	—	12 (weekly)	Much improved	Dr. P. Frank (Cannes)
218	,, 20	W. H.	M.	14	½ year	Sunstroke	C	—	Left mod.	Slight	Trace	—	72	Much improved	Dr. Collins (Sydenham)
219	,, 23	S. T.	F.	26	—	Hereditary Mother scoliotic	C	—	Left trace	Slight	Trace	—	72	Improved	Dr. C. E. Abbott (Taunton)
220	,, 23	G. A. S.	F.	15½	1 year	—	C	Right mod.	Right trace	Severe	Severe	—	72	Much improved	Dr. Shackleton (Sydenham)
221	,, 24	E. L.	F.	17	8 years	Hereditary Maternal Grandmother scoliotic	S	Right extreme	Left severe	Slight	—	Plaster jacket 3 years	72	Much improved	—
222	,, 27	Mrs. W.	F.	34	—	—	C	—	—	Severe	—	—	72	Much improved	Dr. C. E. Watson
223	,, 27	M. H.	F.	10	—	Rapid growth	S	—	Right mod.	—	Severe	—	24	Much improved	Dr. Stanley Smith
224	,, 27	M. B.	F.	16	3 years	—	S	Right extreme	Left extreme	Slight	Trace	Steel supports 3 years	72	Much improved (confirmed 4 years after)	Mr. C. Heath
225	,, 27	B. L.	F.	11¾	1 year	Rapid growth	C	—	Left mod.	—	Severe	—	72	Much improved (confirmed 3 years after)	—
226	,, 30	L. M. S.	F.	16	2 years	Scarlet fever	C	Left mod.	—	—	Moderate	—	48	Much improved (confirmed 5 years after)	Late Dr. Wilberforce Smith

227	May 3	B. E. L.	F.	19	5 years	Born in India	S	Left (above) mod., right (below) severe	Left mod.	Severe	Moderate	Steel support 1 year	72	Much improved	Dr. Arthur Willis
228	,, 4	A. M.	F.	13½	—	—	C	—	Left trace	Mod.	Moderate	3 hours daily lying	24	Much improved	—
229	,, 11	M. S.	F.	15	10 years	—	CC	Right extreme	Left severe	—	Moderate	Plaster jacket 2 years	72	Much improved	—
230	,, 15	V. G. O.	F.	6½	—	Always delicate	C	Left trace	Left trace	—	Moderate	—	24	Much improved (confirmed 1 year after)	—
231	,, 16	U. S. B.	M.	13½	—	Hereditary See Sister, No. 258 Rapid growth Delicate	C	Right severe	Right mod.	—	Trace	—	48	Much improved (confirmed 8 years after)	Dr. Alfred Schofield
232	,, 28	O. L.	F.	16	4 years	Always delicate	S	Right severe	Left severe	—	Moderate	Steel and plaster jackets for 3 years	36	Improving, but left without author's consent	Dr. V. P. Gibney (New York)
233	,, 28	R. E.	F.	11	2 years	Always delicate	C	Left severe	Left trace	—	—	—	36	Much improved	—
234	,, 29	E. B.	F.	13	—	Rapid growth	CS	Right mod.	Left trace	—	Trace	—	24	Much improved	Dr. Abbott (Taunton)
235	,, 29	L. P.	M.	6	—	Always delicate	SC	—	Right mod.	—	Moderate	—	72	Much improved	Dr. Uhthoff
236	,, 30	E. A. H.	M.	9	¼ year	Always delicate	C	—	—	—	Moderate	—	24	Much improved (confirmed 2 years after)	Dr. H. Hilbers (Brighton)
237	June 8	N. W. W.	F.	15½	—	Rapid growth	S	Right mod.	—	Severe	Trace	—	72	Much improved (confirmed 4 years after)	Dr. Shackleton (Sydenham)
238	,, 9	L. U.	F.	17	—	—	C	—	Right mod.	—	Moderate	—	48	Much improved (confirmed ½ year after)	—
239	,, 11	J. H.	F.	16	2 years	Hereditary Sister and maternal Aunt scoliotic	S	—	Right severe	Severe	—	Spinal support	72	Improved	—
240	,, 12	H. M.	M.	8	—	—	C	—	—	—	—	—	72	Much improved	—
241	,, 19	F. E.	F.	12	1 year	Rapid growth	CC	—	—	—	Moderate	—	24	Much improved	Dr. Dyce-Brown
242	,, 22	E. M.	F.	13	6 years	Delicate	CS	—	Left mod.	—	Trace	3 hours daily lying	24	Much improved (confirmed 2 years after)	Dr. E. A. Hall (Surbiton)
243	,, 23	C. P.	M.	13	—	Hereditary Always delicate See Sister, No. 246	S	Right trace	Left severe	—	—	—	24	Improved	—
244	,, 28	M. S.	F.	15	½ year	Delicate	S	Right trace	Left mod.	—	Moderate	—	40	Much improved (confirmed 1 year after)	—
245	,, 30	F. B.	F.	20	12 years	—	S	Right trace	Left mod.	Severe	Moderate	—	72	Much improved (confirmed 1½ year after)	Dr. Herbert Brown

No.	Date.	Patient.	Sex	Age brought to Author.	Duration of Scoliosis.	Cause of Scoliosis.	Description of Scoliosis.	Osseous Deformity.		Pain.	Flat-Foot.	Previous Treatment.	No. of visits under Author's Treatment.	Result of Author's Treatment.	Sent to Author by
								Ribs Posteriorly.	Erectores Spinæ.						
	1888														
246	July 2	V. P.	F.	10	—	Hereditary Always delicate See Brother, No. 243	C	—	Left trace	—	—	—	24	Much improved	—
247	,, 2	F. B.	F.	12	½ year	Rapid growth	C	Left mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
248	,, 3	C. M.	F.	17	5 years	—	S	—	Left mod.	—	Moderate	—	36	Much improved	—
249	,, 6	G. C.	F.	12	1 year	Hereditary Rapid growth Sister of No. 250	C	Left trace	Left mod.	—	Moderate	—	72	Much improved	—
250	,, 6	G. C.	M.	11	—	Hereditary Rapid growth Brother of No. 249	C	—	—	—	Moderate	—	24	Much improved	—
251	,, 6	E. B.	F.	14¾	—	Rapid growth	C	—	Left mod.	—	Moderate	—	72	Much improved (confirmed 1½ year after)	Dr. Lightfoot (Newcastle-on-Tyne)
252	,, 9	A I.	F.	17	10 years	—	C	Right severe	Right extreme	—	Moderate	Plaster jacket Steel support	90	Much improved	—
253	,, 11	M. B.	F.	14	1 year	Hereditary See Sister, No. 722 Defective eyesight Rapid growth	C	Left trace	Left mod.	—	Trace	—	72	Much improved (confirmed 3 years after)	Dr. Rasch
254	,, 14	T. R.	F.	9¾	—	Always delicate	S	—	Left mod.	—	Moderate	—	72	Much improved	Dr. Julia Cock
255	,, 16	E. M. P.	F.	14¾	2 years	Rapid growth	C	Right mod.	Right extreme	—	Trace	Felt jacket	72	Much improved (confirmed 4 years after)	—
256	,, 18	P. S.	F.	19	3 years	After typhoid fever Hereditary. Paternal Aunt severe scoliosis	S	Right extreme	Left mod.	—	Moderate	Plaster and felt jacket 3 years	72	Much improved (confirmed ½ year after)	—
257	,, 18	M. C. B.	F.	15	14 years	Hereditary Mother scoliotic	S	—	Left mod.	Mod.	Moderate	Spinal support 3 years	72	Much improved (confirmed 2½ years after)	—
258	,, 20	K. B.	F.	19	6 years	Hereditary See Brother, No. 231	S	Right severe	Left severe	Severe	Moderate	Steel supports 6 years	72	Much improved (confirmed 8 years after)	—
259	,, 20	M. E. H.	F.	6¾	½ year	After diphtheria	C	—	Left trace	—	Moderate	—	72	Much improved (confirmed 1½ year after)	Dr. Stanley Smith
260	,, 27	M. W.	F.	16¾	—	Rapid growth	S	Right trace	Left mod.	—	Moderate	—	72	Much improved (confirmed ½ year after)	—

261	July 27	Mrs. A.	F.	57	42 years	Rapid growth		Right severe	Left severe	Extreme	—	Spinal supports nearly 40 years	120	Much improved (confirmed 2 years after)	—
262	,, 27	K. B.	F.	21	3 years	—		Right mod.	Left mod.	Slight	Moderate	—	72 under Dr. Abbott	Much improved	Dr. C. E. Abbott (Taunton)
263	,, 30	A. R.	F.	16¾	2 years	—		Left trace	Right trace	—	Moderate	—	72	Much improved (confirmed 1½ year after)	—
264	,, 31	A. C. L.	F.	24	8 years	Hereditary See Sister, No. 286 Rapid growth		Left (above) trace, right (below) mod.	Left mod.	Severe	Moderate	—	72	Much improved	Dr. Clifford Allbutt (Cambridge)
265	,, 31	M. I. W.	F.	32	4 years	Severe fever		Left trace	Left mod.	Severe	Trace	—	72	Much improved	Dr. Herman Hilbers (Brighton)
266	,, 31	N. S.	F.	13	1 year	—		—	—	—	—	—	48	Much improved (confirmed 1 year after)	—
267	Sept. 3	K. Y.	F.	25	4 years	"Mental shock"		—	—	Severe	Moderate	"Weir Mitchell" treatment	72	Not improved	Dr. H. Colgate (Eastbourne)
268	,, 3	E. M. T.	F.	17	—	Rickets		—	Left mod.	—	Trace	—	72	Much improved	Dr. Cullingworth
269	,, 7	L. C.	F.	17	1 year	Hereditary See Sisters, No. 893 and 901		Right severe	Left mod.	Mod.	Trace	4 hours daily lying	96	Much improved (confirmed 5 years after)	Dr. Boswall Watson (Tufnell Park)
270	,, 11	E. B.	F.	16¾	4¾ years	Always delicate		Right mod.	Left mod.	Slight	Moderate	Felt jacket	72	Much improved (confirmed 1 year after)	Dr. T. F. Chavasse (Birmingham)
271	,, 11	A. C.	F.	19	Several years	—		Left trace	Left mod.	Slight	Trace	—	72	Much improved	—
272	,, 19	A. T.	F.	14	4 years	Born in Burmah		Left trace	Left mod.	Severe	Trace	—	72	Much improved (confirmed 2 years after)	Dr. W. T. P. Wolston (Edinburgh)
273	,, 19	E. V.	F.	15	—	Rapid growth		Right severe	Left severe	—	Moderate	—	72	Much improved (confirmed 7½ years after)	—
274	,, 20	A. C.	F.	14	—	Left pleurisy 3 times		Right mod.	Left mod.	—	Trace	—	24	Much improved (confirmed 8 years after)	—
275	,, 21	F. H.	F.	14	1½ year	—		Right severe	Left severe	Slight	Moderate	—	72	Not improved	Dr. G. B. Phillips (Spital Square, E.)
276	,, 26	E. P.	F.	14	½ year	Hereditary See Sister, No. 378 Always delicate		Left trace	Left mod.	Slight	Trace	—	72	Much improved (confirmed 3 years after)	—
277	,, 27	E. N.	F.	12½	—	Left lung delicate		—	—	Mod.	Moderate	—	72	Much improved	Dr. B. Duke (Clapham Common)

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								Ribs Posteriorly.	Erectores Spinæ.						
278	1888 Sept. 27	E. H.	M.	8	—	Hereditary See Brother, No. 279 Always delicate	C	Left trace, right *anteriorly* mod.	Left trace	—	Moderate	—	65	Much improved	Dr. Purdom (Croydon)
279	Oct. 6	G.C.H.	M.	10	—	Hereditary See Brother, No. 278	S	—	Left trace	—	Moderate	—	57	Much improved	—
280	,, 16	H. F.	F.	21	6 years	Hereditary Mother scoliotic	S	Right severe	Left severe	—	Trace	Plaster jacket	38	Much improved	—
281	,, 18	M. N.	F.	18	7 years	—	C	—	Left trace	—	Moderate	—	72	Much improved	—
282	,, 20	D. T.	F.	12¼	2 years	—	S	—	Left trace	Severe	Moderate	—	72	Much improved (confirmed 1 year after)	—
283	,, 21	T. O. D.	F.	4	—	Hereditary Father scoliotic	C	Right *anteriorly* mod.	—	—	Moderate	—	72	Much improved	Dr. Uhthoff (Brighton)
284	,, 23	L. K.	F.	21	8 years	Rapid growth	S	Right severe	Left severe	Mod.	Severe	Steel support 8 years	72	Much improved (confirmed 8 years after)	Mr. C. J. Symonds
285	,, 24	W. T.	M.	15¾	—	Broncho-pneumonia	C	—	—	—	Trace	—	12 weekly	Much improved	Dr. Leslie Trotter (Coleford)
286	,, 26	E. C. L.	F.	19	3 years	Hereditary See Sister, No. 264	S	Left trace	Right trace	Severe	Moderate	2 hours daily lying	72	Much improved	—
287	,, 31	L. M. R.	F.	13	½ year	Hereditary See Cousin, No. 294, also Sisters, Nos. 296 and 310	C	—	Left mod.	—	Moderate	—	72	Much improved (confirmed 2 years after)	Dr. Shackleton (Sydenham)
288	Nov. 6	I. E.	F.	16	5 years	Rapid growth	C	—	Left mod.	—	—	1 hour daily lying	24	Much improved	—
289	,, 7	G. M.W.	F.	12	½ year	—	C	Right mod.	—	—	Moderate	—	72	Much improved (confirmed 5 years after)	Dr. Helen Wilson (Sheffield)
290	,, 7	G. S.	F.	15	2 years	Always delicate	C	—	Left mod.	—	Trace	—	72	Much improved (confirmed 2 years after)	—
291	,, 7	F. G. I.	F.	9⅓	—	Very delicate	S	Right mod.	Left mod.	—	Moderate	—	68	Much improved	Dr. Neild (Tunbridge Wells)
292	,, 8	E. S.	F.	14½	½ year	Delicate lungs	S	Left mod.	Right mod.	Slight	Severe	Steel support	86	Much improved (confirmed 3 years after)	Dr. T. Morton

293	Nov. 12	I. O.	F.	14	—	Rapid growth	C	—	Left trace	—	—	—	48	Much improved	—
294	,, 13	M. E. S.	F.	11	—	Hereditary See Cousins, Nos. 287, 296, and 310	S	Right trace	Left mod.	—	Moderate	—	24	Much improved (confirmed 1½ year after)	—
295	,, 14	O. G.	F.	6¼	—	Rapid growth	C	—	Left mod.	Mod.	Severe	—	24	Much improved (confirmed 1 year after)	Dr. Stanley Smith
296	,, 15	L. R.	F.	12	—	Hereditary See Sisters, Nos. 287 and 310, and Cousin, No. 294	C	Left trace	Left mod.	—	Trace	—	24	Much improved (confirmed 1½ year after)	—
297	,, 16	T. S.	F.	16	1 year	Always delicate	S	Right (above) trace, left (below) trace	—	Mod.	Moderate	3 hours daily lying	72	Much improved	—
298	,, 19	H. R.	F.	13	¼ year	Rapid growth	S	Left (upper) trace, right (lower) trace	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 2 years after)	Dr. Uhthoff (Brighton)
299	,, 23	I. C.	F.	14	¼ year	Asthma	S	Right trace	Left mod.	Slight	Moderate	Steel support	90	Much improved (confirmed 1 year after)	—
300	,, 26	D. E.	F.	4	—	—	S	—	Left trace	—	Trace	—	24	Much improved (confirmed 5 years after)	Dr. Charlotte Ellaby
301	,, 28	E. M. D.	F.	17	5 years	—	S	Left severe	Right severe	Mod.	Trace	2 hours daily lying	72	Much improved	Dr. Dalley (Lyston)
302	Dec. 1	G. W.	F.	13	—	Rapid growth	CC	—	Left mod.	Mod.	Moderate	—	72	Much improved	—
303	,, 5	M. B.	F.	22	½ year	Always delicate	C	Right mod.	Right trace	Slight	Trace	—	72	Much improved (confirmed 6 years after)	Late Dr. Wilberforce Smith
304	,, 6	H. B.	F.	8⅓	—	Scarlet fever	C	Left trace	Left trace	—	Moderate	—	120	Much improved (confirmed 5 years after)	Dr. Albert Wilson (Leytonstone)
305	,, 7	A. W.	F.	25	2 years	Hereditary Sister has extreme scoliosis	S	Right mod.	Left extreme	Severe	—	—	72	Much improved (confirmed 1 year after)	Dr. Lacey (Woolwich)
306	,, 7	P.	F.	36	20 years	—	C	—	Left mod.	Severe	Moderate	Massage	96	Much improved (confirmed ½ year after)	Dr. Uhthoff
307	,, 17	M. W. O.	F.	12	2 years	Severe scarlet fever	S	Right trace	—	—	Moderate	—	24	Much improved	Dr. A. Peck
308	,, 19	E. W.	F.	14	4 years	Rapid growth	CC	Left trace	Left mod.	—	Moderate	—	72	Much improved	Dr. Grigg
309	,, 20	E. B.	F.	10	¼ year	After whooping cough	CC	Left trace	Left mod.	—	Moderate	—	72	Much improved (confirmed 5 years after)	Late Dr. Buck
310	,, 29	E. R.	F.	16	—	Hereditary See Sisters, Nos. 287 and 296	C	—	—	Slight	Trace	—	24	Much improved (confirmed 1½ year after)	—

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								Ribs Posteriorly.	Erectores Spinæ.						
	1889														
311	Jan. 1	A. E. B.	F.	20	10 years	—	C	Left mod.	Left severe	Severe	Trace	Steel support 4 years	72	Improved	Dr. Braden (Lewes)
312	,, 2	B. C.	F.	19	—	Always delicate	C	—	—	—	—	3 hours daily lying	72	Much improved (confirmed 1 year after)	—
313	,, 7	G. L.	F.	11¾	—	—	C	Left trace	Left trace	—	Moderate	—	48	Much improved (confirmed 2 years after)	Sir W. Broadbent, Bart.
314	,, 9	L. W.	F.	15	3 years	Rapid growth	C	Left mod.	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 3 years after)	Dr. Stanley Smith
315	,, 12	D. M. D.	F.	31	10 years	Over-work as a teacher	C	—	—	Severe	—	—	24	Much improved	Mrs. Garrett Anderson, M.D.
316	,, 16	C. D.	F.	7½	—	Premature birth	C	—	—	—	Moderate	—	24	Much improved (confirmed 1½ year after)	Dr. B. Duke (Clapham Common)
317	,, 17	V. F.	F.	9	—	Rapid growth	C	—	—	Slight	Trace	—	24	Much improved	—
318	,, 22	B. C.	F.	15	2 years	Rapid growth	C	—	—	Severe	Moderate	—	72	Much improved (confirmed 2 years after)	Dr. Neild (Tunbridge Wells)
319	,, 22	B. B. G.	F.	15	1 year	Rapid growth	S	Left (upper) trace, right (lower) trace	Left mod.	Severe	Trace	—	24	Much improved (confirmed 2½ years after)	—
320	,, 25	L. G.	F.	13¾	¼ year	—	C	—	Left mod.	—	Trace	—	108	Much improved	Dr. Stanley Smith
321	,, 25	M. P.	F.	13	2 years	Hereditary Elder Sister scoliotic Rapid Growth	S	Right mod.	Left severe	Slight	Moderate	—	72	Improved (confirmed 4 years after)	—
322	,, 28	M. S.	F.	15	2 years	—	S	Left (upper) mod. right (lower) mod.	Left severe	Severe	Moderate	4 hours daily lying	72	Much improved (confirmed 3 years after)	—
323	,, 29	B. F.	F.	17	1½ year	—	C	—	Left mod.	Severe	Moderate	—	72	Much improved (confirmed 2 years after)	—
324	,, 29	M. H.	F.	11⅔	—	Always delicate	C	—	Left mod.	Mod.	Moderate	—	72 (typhoid fever between)	Much improved	—
325	,, 29	S. H.	M.	6⅓	—	Always delicate	C	Left trace	Left mod.	—	Trace	—	72	Much improved	Mr. S. T. Hutchinson

326	Jan. 30	E. A.	F.	13½	2 years	Rapid growth	C	—	—	—	Trace	—	72	Much improved	Dr. Ford Anderson
327	,, 30	B. W	F.	14	1 year	—	S	Right mod.	Left mod.	—	Moderate	—	72	Much improved	Dr. Wilbe
328	Feb. 1	E. W.	F.	14½	1½ year	After diphtheria	S	Right mod.	Left severe	—	Severe	—	72	Much improved	Dr. Mary T. Bissell (329, Fifth Avenue, New York)
329	,, 1	H. W.	F.	20	8 years	—	C	—	Left trace	—	—	Felt jacket	48	Much improved	Late Dr. George Brown (Brighton)
330	,, 2	E. L. T.	F.	21	2 years	—	S	Right mod.	Left severe	Severe	Trace	Lying down all day for months	72	Much improved (confirmed 6 years after)	—
331	,, 4	E. B.	F.	14½	—	Rapid growth	C	—	Left mod.	—	Trace	—	48	Much improved (confirmed 1 year after)	—
332	,, 4	M. B.	F.	13¾	—	Delicate	S	Right trace	Left trace	—	Trace	—	24	Much improved	Mr. N. P. Blaker (Brighton)
333	,, 5	M. B.	F.	20	2½ years	Hereditary See Sister, No. 346	S	Right mod.	—	Severe	Trace	—	72	Much improved (confirmed 1½ year after)	Dr. Stephen Mackenzie
334	,, 8	E. W.	M.	16½	1½ year	Delicate	S	Right mod.	—	Slight	Trace	—	36 alternate days	Much improved (confirmed 5 years after)	Dr. E. G. Bull (Birmingham)
335	,, 11	D. W.	F.	10¼	—	Rapid growth	C	—	Left mod.	Slight	Severe	Lying down 1 hour daily	28	Improved	—
336	,, 12	S. C. M.	F.	18	1 year	—	S	Right trace	Left mod.	Mod.	—	—	72	Much improved	Dr. Julia Cock
337	,, 13	E. M.	F.	12	1½ year	Hereditary, Sister scoliotic	S	—	Right trace	—	Moderate	—	72	Much improved	—
338	,, 16	H. D.	F.	23	9 years	—	S	Right mod.	Left mod.	Mod.	—	Spinal supports	72	Much improved (confirmed 1 year after)	—
339	,, 18	M. M.	F.	10	½ year	—	C	—	Left mod.	—	Trace	—	72	Much improved (confirmed 5 years after)	—
340	,, 19	M. L.	F.	14½	¼ year	Rapid growth	S	Left (above) mod. right (below) mod.	Left mod.	—	Moderate	—	96	Much improved (confirmed 1½ year after)	—
341	,, 20	M. P.	F.	16	—	Rapid growth	S	Right mod.	Left mod.	Severe	Severe	—	72	Much improved (confirmed 3 years after)	Dr. I. W. T. Smith (Belfast)
342	,, 20	A. E. C.	F.	15	—	Hereditary See Cousin, No. 791	S	Right mod.	Left severe	—	Severe	—	24	Not improved (a year after)	—
343	,, 22	E. T.	F.	15¾	—	Rapid growth Always delicate	C	—	Left mod.	—	—	—	24	Much improved	—
344	,, 22	O. M.	M.	18	2 years	Pneumonia	S	Right mod.	Left mod.	Slight	—	—	12 weekly	Much improved	—

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								Ribs Posteriorly.	Erectores Spinæ.						
345	1889 Feb. 28	K. A.	F.	23	11 years	—	S	Right mod.	Left mod.	Severe	Moderate	Lying down 6 hours daily	72	Much improved (treatment carried out by Dr. Abbott)	Dr. C. E. Abbott (Taunton)
346	Mar. 2	F. B.	F.	14½	—	Hereditary See Sister, No. 333	S	Right trace.	Left trace	—	Moderate	—	24	Much improved (confirmed 1½ year after)	—
347	,, 4	G. C. B.	F.	18½	—	Hereditary Brother scoliotic, also Sister. See No. 471	S	Left (above) severe, right (below) trace	—	Severe	Moderate	—	72	Much improved	Dr. Wills (Belsize Park)
348	,, 7	F. R.	F.	15	1½ year	—	S	Right severe	Left severe	Severe	Moderate	—	72	Improved, then relapse	Dr. Stephen Mackenzie
349	,, 8	A. P.	F.	27	9 years	—	C	—	—	Severe	Moderate	Felt jacket	72	Much improved	—
350	,, 12	A. G.	F.	8⅔	1 year	—	C	Left mod.	Left mod.	—	Trace	2 hours daily lying	72	Much improved	—
351	,, 13	A. P.	F.	22	6 years	—	S	Right mod.	Left mod.	Severe	Trace	Barwell's bandages 3 years.	72	Much improved (confirmed 3 years after)	—
352	,, 13	A. F.	F.	26	5 years	—	S	Right mod.	Left mod.	Severe	Moderate	Steel support 4 years.	72	Much improved (confirmed 7 years after)	—
353	,, 14	E. R.	F.	19	4 years	—	C	—	Left severe	Severe	Trace	Steel support.	72	Much improved (confirmed 5 years after)	—
354	,, 18	M.G.S.	F.	17¾	—	—	C	Left trace	Left trace	Mod.	—	Felt jacket	72	Much improved (confirmed 2 years after)	Dr. Ann E. Clark (Birmingham)
355	,, 20	M. T.	F.	11	2 years	Always delicate	C	Left trace	—	—	Moderate	Steel support	72	Much improved (confirmed 5 years after)	—
356	,, 22	R. H.	F.	10	8 years	Always delicate	S	Right severe	—	Slight	Moderate	Steel support	72	Much improved (confirmed 7 years after)	—
357	,, 22	M.S.R.	F.	21⅔	1 year	—	C	—	—	Severe	—	—	36	Much improved (confirmed 1 year after)	Dr. Ann E. Clark (Birmingham)
358	,, 25	L. P.	F.	30	6 years	General neurosis	C	—	Left mod.	Slight	Moderate	Felt jacket	96	Improved	—
359	,, 25	A. G.	F.	25	13 years	Hereditary See Cousin, No. 360 Always delicate	S	Right mod.	Left mod.	Severe	Trace	—	54	Much improved (confirmed 6 years after)	—

360	Mar. 25	A. W.	F.	20¾	8 years	Hereditary See Cousin, No. 359	S	Right trace.	Left severe	Severe	Trace	Felt jacket	72	Much improved (confirmed 7 years after)	—
361	,, 27	J. B. G.	M.	9⅔	—	Pneumonia, etc.	C	Right mod.	—	—	Severe	Massage	72	Much improved	Dr. Ford Anderson
362	,, 27	Mrs. P.	F.	30	2 years	—	C	—	—	Severe	Trace	Steel support	72	Improved, then relapse	Dr. G. H. Hayle (Rochdale)
363	Apr. 5	A. R.	F.	16¼	—	Hereditary Sister scoliotic	C	Left mod.	—	—	Moderate	—	72	Much improved (confirmed 2 years after)	—
364	,, 5	S. W.	F.	33	Since childhood	—	C	Right severe	—	Severe	Moderate	Steel support	72	Much improved (confirmed 5 years after)	—
365	,, 6	S. P.	M.	12	2 years	Rapid growth	S	—	Left mod.	—	Severe	Steel support 2 years	72	Much improved (confirmed 2 years after)	Sir W. Broadbent, Bart.
366	,, 8	B. V.	F.	14½	—	Hereditary Sister scoliotic	S	Right mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	Dr. Bezley Thorne
367	,, 10	V. H.	F.	8	3 years	Delicate	C	—	Left trace	—	Moderate	6 hours daily lying	24	Much improved	—
368	,, 11	J. U.	F.	4	—	Hereditary Mother and maternal Uncle scoliotic	S	Right trace	Left mod.	—	—	—	96	Much improved (confirmed 6 years after)	—
369	,, 12	M. S.	F.	10	—	Always delicate	C	—	Left trace	—	Severe	—	48	Much improved	Dr. Stanley Smith
370	,, 17	E. H.	F.	15¾	—	Premature birth	S	Left mod.	Right trace	Slight	—	—	72	Improved	Dr. E. T. Watkins (Guildford Street, W.C.)
371	,, 26	F. S.	F.	24	2 years	Neurotic	S	Right trace	Left mod.	Severe	Severe	—	72	Improved	Dr. Ann E. Clark (Birmingham)
372	,, 27	J. D.	F.	11	¼ year	Delicate	C	Right trace	Right mod.	Mod.	Severe	—	72	Much improved (confirmed 1 year after)	Dr. Shackleton (Sydenham)
373	,, 29	K. L. H.	F.	10½	—	Rapid growth	C	—	Left mod.	—	Moderate	—	72	Much improved	—
374	May 1	M. F.	F.	28	18 years	—	C	—	—	Slight	Trace	2 hours daily lying	24	Much improved	Dr. Dyce-Brown
375	,, 1	M. W.	F.	12¾	3 years	Always delicate	C	—	Left mod.	—	Moderate	—	48	Much improved (confirmed 1 year after)	—
376	,, 2	G. M.	F.	9	—	—	C	—	Left mod.	—	Severe	—	48	Much improved	Dr. G. Madden
377	,, 3	C. L.	M.	13	8 years	Very delicate	S	Right extreme	Left mod.	Mod.	Moderate	Steel support	72	Much improved	Dr. Vaughan-Jackson (Potters Bar)
378	,, 6	R. P.	F.	13	—	Hereditary See Sister, No. 276	C	—	Left mod.	Severe	Severe	—	24	Much improved	—
379	,, 7	U. L.	F.	15	2 years	Hereditary See Sister, No. 380 8 months' child Rapid growth	C	—	Left mod.	—	Severe	—	72	Much improved (confirmed 2 years after)	Dr. A. S. Kennedy

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								Ribs Posteriorly.	Erectores Spinæ						
	1889														
380	May 7	H. L.	F.	14	2 years	Hereditary See Sister, No. 379	S	—	Left mod.	Mod.	Moderate	—	72	Much improved (confirmed 2 years after)	—
381	,, 8	M. O.	F.	17	2 years	—	C	—	Left mod.	Severe	Moderate	3 hours daily lying	72	Much improved (confirmed 2 years after)	—
382	,, 8	M. F.	F.	15	—	Rapid growth	C	—	Left mod.	Mod.	Trace	—	48	Much improved	—
383	,, 9	A. A.	F.	12	½ year	Always delicate	S	Right mod.	Left mod.	—	Moderate	Steel support	72	Not improved	—
384	,, 16	N. C.	F.	12	2 years	Hereditary Mother scoliotic	S	Right mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 1½ year after)	—
385	,, 24	E. E.	F.	19⅓	—	Always delicate	C	Left mod.	Left mod.	Slight	Trace	—	80	Much improved (confirmed 2 years after)	Dr. Clifford Allbutt (Cambridge)
386	,, 24	H. B.	F.	14¾	—	—	C	—	—	Slight	Trace	—	30	Much improved	Dr. Ford Anderson
387	,, 27	M. H.	F.	20¾	7¾ years	—	S	Right trace	Left mod.	Severe	—	—	52	Much improved	Dr. Walter Kidd (Blackheath)
388	,, 27	K. L.	F.	13	—	—	C	Left trace	Left trace	—	Moderate	—	24	Improved, then relapse	Mr. R. J. Godlee
389	,, 28	A.G.L.	F.	13	½ year	Hereditary Mother scoliotic See Sister, No. 395 See Brother, No. 578	C	Left trace	Left mod.	—	Trace	—	72	Much improved (confirmed 2½ years after)	—
390	,, 29	A.W.S.	M.	7½	¼ year	Delicate	C	—	—	—	Severe	—	60	Much improved (confirmed 3 years after)	Dr. W. E. P. Wolston (Edinburgh)
391	June 3	Mrs. W.	F.	76	66 years	—	S	Left (above) mod., right (below) severe	Left trace	Severe	—	—	6	Improved	—
392	,, 5	C. E. B.	F.	28	13 years	—	S	Right mod.	Left mod.	Severe	Severe	—	72	Much improved	Dr. Walter Kidd (Blackheath)
393	,, 7	A. J.	F.	14½	3½ years	Born and living in India 7 years	C	—	Left mod.	—	Moderate	Spinal support 1 year	72	Much improved	Dr. Bernard Scott (Bournemouth)
394	,, 7	E. M.	F.	15¾	—	Rapid growth	C	Left trace	Left mod.	Mod.	Moderate	—	72	Much improved (confirmed 2 years after)	Dr. Joseph Kidd

395	June 12	C. G. L.	F.	9½	1 year	Hereditary Mother and Sister, No. 389, scoliotic, and Brother, No. 578		—	Left mod.	—	Severe	—	56	Much improved	—
396	,, 13	A. J. T.	F.	28½	3 years	—		Right trace	Left mod.	Severe	Moderate	Felt jacket 3 years	72	Much improved	—
397	,, 14	C. A. J.	F.	13¾	1 year	Rapid growth		—	—	—	Severe	—	72	Improved, followed by relapse	Dr. Ford Anderson
398	,, 17	E. L. H.	F.	18	2 years	After scarlet fever		Right mod.	Left trace	Severe	Moderate	Felt jacket 1 year	20	Improved	Dr. Ann E. Clark (Birmingham)
399	,, 18	C. D.	F.	24	15 years	—		Right mod.	Left severe	Slight	Moderate	Steel support 3 years	72	Much improved	—
400	,, 19	T. B.	F.	20	5 years	Asthma		Left (above) mod., right (below) mod.	Left mod.	Slight	—	Felt jacket 2 years	48	Much improved	Dr. Ford Anderson
401	,, 20	J. P.	F.	11⅓	2 years	—		—	Left mod.	—	Moderate	Felt jacket 1 year	24	Much improved	—
402	,, 24	F. E. B.	M.	9½	—	Hereditary See Sister, No. 411 Always delicate Rapid growth		—	Left trace	—	Moderate	—	72	Much improved (confirmed 6 years after)	Dr. Madden (Bromley)
403	,, 26	F. P.	F.	15½	—	—		Left (above) trace, right (below) trace	Left trace	Severe	Moderate	—	72	Much improved (confirmed 1 year after)	—
404	,, 26	M. K.	F.	21	7 years	After scarlet fever		—	Left trace	Severe	Severe	Felt jacket 1 year	85	Improved	Dr. Thos. Corbett (Kingston-on-Thames)
405	,, 28	E. M. G.	F.	28	15 years	—		Right severe	Left severe	Severe	Trace	—	72	Much improved (confirmed 5 years after)	Dr. T. W. Barron (Durham)
406	July 1	M. M.	F.	12	3 years	Hereditary See Sister, No. 414, and Brother, No. 419 Rapid growth		—	Left trace	Mod.	Trace	Steel support 2 years	72	Much improved (confirmed 5 years after)	—
407	,, 5	G. W.	F.	8½	—	Delicate		—	Left mod.	Mod.	Moderate	Massage	144	Much improved (confirmed 6 years after)	—
408	,, 6	B. M.	F.	16	9 years	—		Right severe	Right severe	Slight	Moderate	Steel support 2 years	72	Much improved	—
409	,, 6	N. K. C.	F.	8	—	Hereditary 2 Sisters and a Cousin scoliotic Very delicate		Right mod.	Left mod.	—	Severe	—	72	Much improved (confirmed 6 years after)	—
410	,, 8	M. B.	F.	16	—	Defective eyesight		Right trace	Left mod.	Slight	Moderate	—	81	Much improved (confirmed 3 years after)	—

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411	1889 July 8	E. B.	F.	6¼	—	Hereditary See Brother, No. 402	C	—	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 1 year after)	Dr. Madden (Bromley)
412	,, 9	W. S. G.	M.	16	9 years	Hereditary See Sister, No. 474	S	Right mod.	Left severe	—	—	Felt jacket 4 years	72	Much improved	—
413	,, 9	K. P.	F.	17	—	—	C	—	Left trace	—	—	—	24	Much improved (confirmed 1 year after)	—
414	,, 12	A. M.	F.	13	—	Hereditary See Sister, No. 406; Brother, No. 419	S	Right trace	Left mod.	—	Moderate	—	48	Much improved	—
415	,, 13	A. T.	F.	13	—	Rapid growth	S	Left (above) mod., right (below) mod.	Left mod.	—	Moderate	—	72	Much improved	—
416	,, 15	K. M.	F.	7¾	—	Bronchitis	C	—	Left trace	—	Trace	—	24	Much improved (confirmed 1 year after)	—
417	,, 17	A. W.	F.	16¾	4 years	Hereditary See Sister, No. 418	S	Right severe	Left severe	—	Moderate	Steel support 3 years	72	Much improved	Mr. G. Buckston Browne
418	,, 17	E. W.	F.	14⅔	3 years	Hereditary See Sister, No. 417	S	Right mod.	—	—	Moderate	Steel support 3 years	48	Much improved	—
419	,, 24	A. G. M.	M.	9¼	3 years	Hereditary See Sisters, No. 406 and 414	C	—	—	—	Trace	—	72	Much improved (confirmed 4 years after)	—
420	,, 24	E. H.	M.	11¾	½ year	—	C	—	Left mod.	—	Moderate	—	24	Much improved	Dr. C. J. Smith (Brighton)
421	,, 26	H. O.	M.	8½	—	Rapid growth	C	—	Left mod.	—	Moderate	Plaster-of-paris jacket	48	Much improved (confirmed 1 year after)	—
422	,, 31	A. Y. L.	F.	17	—	Rapid growth	C	Left trace	Left mod.	Slight	Trace	—	24	Much improved	Dr. Martin (Somers Place, W.)
423	Aug. 1	M. H.	F.	14	—	Rapid growth	C	—	—	Slight	Moderate	—	24	Much improved	—
424	,, 2	D. V.	F.	19	2 years	—	C	Left trace	Left mod.	Slight	Trace	—	72	Much improved	Mr. S. J. Hutchinson
425	,, 2	E. B.	F.	21	—	Violin playing	S	Right trace	Left mod.	Slight	Trace	—	28	Improved	—
426	Sept. 14	B. L.	F.	16½	½ year	Hereditary Mother and maternal Grandmother both scoliotic	S	Left (above) mod., right (below) severe	Left severe	—	Trace	Lying down 3 hours daily	72	Much improved	—

427	Sept. 16	M. C.	F.	15	—	Very delicate	C	—	Left mod.	Severe	Moderate	—	72	Much improved (confirmed 1 year after)	Dr. Marriott (Leicester)
428	,, 16	M. B.	F.	23	—	—	C	—	Left mod.	Severe	Trace	—	72	Much improved (confirmed 5 years after)	—
429	,, 18	M. M.	F.	13¼	3 years	Hereditary Mother scoliotic	S	Right mod.	Left mod.	Slight	Trace	—	72	Much improved	—
430	,, 18	B. R.	F.	16	½ year	Hereditary Mother and maternal Grandmother scoliotic	S	Right trace	Left trace	Severe	Moderate	Lying down 3 hours daily	72	Improved	Dr. Neild (Tunbridge Wells)
431	,, 18	E. M. L.	F.	6	5½ years	Rickets	C	Left extreme	Left extreme	—	—	Spinal supports 5 years	72	Improved	Dr. J. Ferguson (Perth)
432	,, 19	V. L.	F.	11	4 years	—	C	Left mod.	Left mod.	—	Moderate	2 hours daily lying	48	Improved, then relapse	Mr. Cresswell Baber (Brighton)
433	,, 20	E. M.	F.	18	5 years	Rapid growth Defective sight	S	Right severe	Left severe	Slight	Severe	Felt jacket 1 year	72	Much improved (confirmed 1 year after)	Dr. E. M. Swanwick (West Hartlepool)
434	,, 20	G. V.	F.	12½	¼ year	Rapid growth	S	Right mod.	Left severe	Severe	Severe	—	72	Much improved (confirmed 1 year after)	Dr. George Clifton (Leicester)
435	,, 21	E. M. C.	F.	16¾	—	Always delicate	C	—	Left mod.	—	—	—	48	Much improved (confirmed 1 year after)	—
436	,, 23	F. S.	F.	14	Since infancy	—	S	Right severe	Left extreme	—	Severe	—	72	Improved, then relapse	—
437	,, 23	A. M. E.	F.	18	5 years	Always delicate	C	—	Left severe	Slight	Moderate	—	103	Much improved	—
438	,, 24	W. H.	F.	13	—	Rapid growth	C	—	—	—	Moderate	—	48	Much improved	Dr. Uhthoff (Brighton)
439	,, 27	H. T. S.	F.	14¾	2 years	Rapid growth	S	Left trace	Right mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
440	,, 30	D. C.	F.	11¼	1 year	Born in India	C	—	Left mod.	—	Moderate	Spinal support	72	Much improved	Dr. Uhthoff
441	Oct. 1	O. W.	M.	12¼	1 year	Hereditary See paternal Aunt, No. 564	C	—	Left mod.	Slight	Trace	—	24	Much improved (confirmed 1 year after)	—
442	,, 2	I. I.	F.	14	1 year	Always delicate Rapid growth	S	Left (above) severe, right (below) severe	Left mod.	Severe	Trace	Felt jacket	72	Much improved (confirmed 6 years after)	—
443	,, 2	R. S.	F.	16½	¾ year	Hereditary See Sisters, Nos. 481 and 740	C	—	—	Severe	Trace	Felt jacket	72	Much improved (confirmed 1 year after)	—
444	,, 2	F. W. S.	F.	32	16 years	—	S	Right severe	Left mod.	Severe	—	Felt jacket	72	Much improved (confirmed 1 year after)	—

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	1889														
445	Oct. 2	Mrs. E.	F.	55	—	—	S	Left severe.	Right severe	Severe	—	—	8	Improved	—
446	„ 2	L. E.	F.	19	18 years	Hereditary See Mother, No. 445	S	Right mod.	Left trace	Mod.	Moderate	—	48	Much improved	—
447	„ 3	N. C.	F.	18	2 years	Rapid growth	C	Right severe	—	—	Severe	Steel support 2 years	72	Much improved	—
448	„ 5	E. M. S.	F.	7⅓	2 years	—	C	—	Left mod.	—	Trace	1 hour daily lying	24	Improved, then relapse	—
449	„ 7	L. M.	F.	17	7 years	Hereditary Grandmother scoliotic, also Sister, see No. 491	C	Right severe	Right severe	Slight	Moderate	Steel support 4 years	72	Much improved (confirmed 6 years after)	Dr. Carless (Devizes)
450	„ 7	E. B.	F.	14	—	Rapid growth	C	—	Left mod.	Mod.	Moderate	—	48	Much improved (confirmed 1 year after)	Late Dr. H. Blumberg (Southport)
451	„ 14	V. B. S.	F.	10¾	3 years	Hereditary Sister and Cousins scoliotic	S	Right mod.	Left mod.	—	Moderate	—	72	Improved, then relapse	Late Dr. Barton Smith
452	„ 19	M. W.	F.	6	2 years	—	C	—	Right mod.	—	Moderate	—	42	Much improved	—
453	„ 21	R. F.	M.	9¾	—	Whooping cough	C	Left trace	Left trace	—	Moderate	—	24	Much improved	Dr. Ford Anderson (Hampstead)
454	„ 23	N. M.	F.	12	—	Chorea	C	—	—	—	Severe	—	24	Much improved	Dr. Ford Anderson (Hampstead)
455	„ 24	R. M. T.	F.	25	10 years	Very neurotic	C	Left mod.	Left severe	Mod.	Moderate	—	48	Not improved	Dr. Neild (Tunbridge Wells)
456	„ 30	M. D.	F.	14	3 years	Violin playing	S	Right severe	Left mod.	—	Trace	—	72	Much improved	Dr. Black (Brighton)
457	„ 30	E. K.	F.	17	3 years	Hereditary See Sister, No. 458	S	—	—	—	Moderate	—	48	Much improved (confirmed 1½ year after)	—
458	Nov. 1	M. B. K.	F.	15⅓	7½ years	Hereditary See Sister, No. 457	S	Right mod.	Left severe	—	Trace	Steel support 3 years	72	Much improved (confirmed 1½ year after)	—
459	„ 1	E. B.	F.	18	3 years	Rapid growth	C	Right mod.	Right mod.	Slight	Trace	Massage	72	Much improved	Professor Buchanan (Glasgow)
460	„ 2	E. S.	F.	16⅔	6½ years	Always delicate	C	—	—	Slight	Trace	Felt jacket 4 years	72	Much improved (confirmed 1 year after)	Dr. M. Dunbar (Clapham Common)

461	Nov. 6	D. L.	F.	17	1 year	Hereditary See Sisters, Nos. 462 and 487		Right severe	Left mod.	Slight	Severe	Steel support	72	Much improved (confirmed 5 years after)	Dr. Carless (Devizes)
462	,, 6	M. L.	F.	16	½ year	Hereditary See Sisters, Nos. 461 and 487		Right mod.	Left mod.	Slight	Severe	—	72	Much improved	Dr. Carless (Devizes)
463	,, 7	M. H.	F.	10	—	Hereditary Sister scoliotic		—	Left mod.	—	Moderate	—	24	Much improved	—
464	,, 8	L. F.	F.	15	2 years	—		Left mod.	Left severe	Mod.	Moderate	—	72	Much improved	Dr. Arthur Beadles (Forest Hill)
465	,, 11	C. G.	F.	17½	2 years	Chorea		Right mod.	Left severe	—	Severe	Steel support	72	Much improved (confirmed 1 year after)	—
466	,, 13	G. R.	F.	7½	—	Dysentery		—	Left mod.	—	Moderate	—	24	Much improved (confirmed 6 years after)	Dr. Carless (Devizes)
467	,, 14	R. L.	M.	20	3 years	Pleurisy		—	Left trace	Severe	Severe	—	12 weekly	Much improved	—
468	,, 14	W. G.	M.	13	8 years	Torticollis		Right mod.	Right mod.	Severe	Severe	—	72	Much improved	—
469	,, 15	C. O.	F.	9	1 year	—		Left mod.	Left mod.	Mod.	Severe	—	72	Much improved	—
470	,, 20	I. B.	M.	16½	—	Delicate		—	Left trace	—	Severe	—	12 weekly	Much improved	Dr. Julia Cock
471	,, 22	M. B.	F.	21	5 years	Hereditary See Sister, No. 347		Right *anteriorly* mod.	—	Severe	—	—	72	Much improved	—
472	,, 25	R. R.	F.	14¼	3 years	Delicate		Right extreme	Left extreme	Severe	Moderate	Steel support	72	Improved	—
473	,, 27	M. G.	F.	17	4 years	Scarlet fever		Right severe	Left severe	Slight	Moderate	Steel support 4 years	72	Much improved (confirmed 2 years after)	—
474	,, 27	G. G.	F.	21	9 years	Hereditary See Brother, No. 412		Left mod.	Left mod.	Severe	Trace	—	72	Much improved	—
475	,, 28	A. P.	M.	21	6 years	Always delicate		Left mod.	Left severe	—	Moderate	—	36 alternate days	Much improved	Dr. M. Dunbar (Clapham Common)
476	,, 29	D. P.	F.	7	—	—		—	Left mod.	—	Moderate	—	29	Improved	Dr. Giffard (Brighton)
477	Dec. 5	K. S.	F.	13	2 years	Rapid growth		Right mod.	Right mod.	—	Severe	—	72	Much improved	—
478	,, 6	U. M.	F.	9⅔	—	Chorea		Left trace	Left mod.	—	Moderate	—	72	Much improved	Sir W. Broadbent, Bart.
479	,, 9	C. G. B.	F.	15	—	—		Left severe	Left mod.	Slight	Moderate	—	72	Much improved	Dr. Ford Anderson (Hampstead)
480	,, 14	H. C.	F.	9½	4½ years	—		Right mod.	Left mod.	—	Moderate	—	72	Much improved	—
481	,, 17	L. S.	F.	19	3 years	Hereditary See Sisters, Nos. 443 and 740		Left trace	—	Slight	—	Spinal supports	24	Much improved	—

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482	1890 Jan. 1	E. H.	F.	13½	—	—	C	—	Left mod.	—	Moderate	—	72	Much improved	Dr. Gervis (Fellows Road)
483	,, 1	M. B.	F.	17¾	3 years	Hereditary See Sister, No. 485	C	Right *anteriorly* severe	—	—	Moderate	Steel support	24	Much improved	Professor G. Buchanan (Glasgow)
484	,, 2	G. W.	F.	21	8 years	—	S	Right severe	Left severe	Severe	—	Steel support	72	Much improved	—
485	,, 3	H. F. B.	F.	16½	—	Hereditary See Sister, No. 483	CS	—	Left mod.	—	Moderate	—	24	Much improved	—
486	,, 4	F. S.	F.	14	—	Hereditary Mother scoliotic	CS	Right mod.	Left mod.	—	Trace	Lying 1 hour daily	72	Much improved	—
487	,, 7	I. L.	F.	11	—	Hereditary See Sisters, Nos. 461 and 462	S	Right mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	Dr. Carless (Devizes)
488	,, 9	M. D.	F.	19	—	—	C	Left trace	Left mod.	Severe	—	Massage	72 under Dr. Abbott	Much improved	Dr. C. E. Abbott (Cheltenham)
489	,, 16	F. E.	M.	14	1½ year	Rapid growth	S	Right severe	Left extreme	—	Trace	Steel support	72	Much improved (confirmed 3 years after)	—
490	,, 16	I. M.	F.	23	13 years	—	CS	Left mod.	Left mod.	Severe	—	Steel support 4 years	72	Much improved	—
491	,, 17	E. K.	F.	14	2 years	Hereditary See Sister, No. 499 Grandmother scoliotic	S	Right mod.	Left mod.	—	—	Spinal support	72	Much improved (confirmed 1 year after)	—
492	,, 20	R. S.	M.	17	—	Pneumonia	C	—	Left trace	—	—	—	12 weekly	Much improved	Dr. Stephen Mackenzie
493	,, 20	E. D.	M.	14	—	Always delicate	CC	Left trace	Left trace	—	Moderate	—	72	Much improved	—
494	,, 22	M. B.	F.	12	½ year	Hereditary Sister scoliotic	CS	—	Left mod.	Slight	Trace	—	24	Much improved	—
495	,, 24	M. S.	F.	14¾	—	Hereditary 3 maternal Aunts scoliotic	S	Right mod.	Right mod.	Slight	Trace	Lying down 1 hour daily	36	Much improved	Dr. Solomon Smith
496	,, 27	Mrs. P.	F.	26	10 years	8 hours piano playing daily	SS	—	Left mod.	Slight	—	—	72	Much improved	Dr. Stephen Mackenzie
497	,, 27	L. S.	M.	35	4 years	—	C	Right *anteriorly* mod.	—	Severe	Trace	Felt jacket 2 years	36 alternate days	Much improved (confirmed 2 years after)	—
498	,, 28	M. L.	F.	13½	1 year	Rapid growth	S	Right severe	Left severe	Severe	Severe	4 hours daily lying	72	Much improved	—

499	Jan. 29	K. K.	F.	14¾	—	Always delicate	S	Right trace	Left mod.	Slight	Severe	—	72	Much improved (confirmed 1 year after)	—
500	Feb. 5	A. R.	F.	11½	—	Mentally backward	C	—	—	—	Severe	—	72	Much improved	—
501	,, 8	Mrs. B.	F.	49	16½ years	—	C	—	Left severe	Extreme	—	Morphia injection	24	Improved	—
502	,, 12	R. A. C.	M.	17⅓	—	Mentally backward	S	Right mod.	Left mod.	—	Trace	—	12 weekly	Improved, then relapse	—
503	,, 17	R. G.	M.	11	—	Hereditary 2 Brothers scoliotic	C	—	Left mod.	—	Trace	—	48	Much improved	—
504	,, 18	A. P.	F.	11	1 year	Rapid growth	C	—	Left mod.	Severe	Severe	2 hours daily lying	72	Much improved	Dr. Harries (Shrewsbury)
505	,, 19	N. I.	F.	13	½ year	Rapid growth	S	—	Right mod.	—	Severe	1 hour daily lying	72	Much improved (confirmed 3 years after)	—
506	,, 20	K. H. W.	F.	18	1 year	Rapid growth	S	Left (above) mod., right (below) severe	Left severe	Mod.	Severe	—	72	Much improved	Dr. Jane H. Walker
507	,, 24	S. E. R.	F.	12	8 years	Sunstroke	S	Right extreme	—	—	Trace	Felt jacket 4 years	72	Much improved	—
508	,, 26	C. M. P.	F.	17	1 year	Rapid growth	S	Right mod.	Left severe	Mod.	Severe	—	72	Much improved	Dr. Perks (Burton-on-Trent)
509	,, 26	I. G.	F.	10¼	2 years	Always delicate	C	Left mod.	Left mod.	—	Moderate	—	48	Much improved	—
510	Mar. 1	M. H.	F.	13	—	—	S	Right trace	Left trace	Mod.	Severe	—	72	Much improved (confirmed 1 year after)	Dr. James Craig (Beckenham)
511	,, 3	R. W.	M.	5	—	After whooping cough	C	Right *anteriorly* severe	Left trace	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
512	,, 5	I. L. P.	M.	17¼	3 years	Left pleurisy	C	Left trace	Left trace	—	—	—	12 weekly	Much improved	—
513	,, 6	G. M.	F.	8	—	Whooping cough	C	—	Left trace	—	Severe	—	72	Much improved (confirmed 1 year after)	Dr. E. A. Hall (Surbiton)
514	,, 10	G. B.	F.	10	—	Hereditary See Sister, No. 525	C	—	Left trace	—	Moderate	—	72	Much improved (confirmed 5 years after)	—
515	,, 10	C. S.	F.	51	37 years	Rapid growth —	S	Right (above) mod. left (below) severe	Left extreme	Severe	—	—	72	Much improved (confirmed 3 years after)	—
516	,, 11	H. S.	F.	13	—	Rapid growth	S	Right trace	Left mod	—	Severe	—	48	Much improved	Dr. Uhthoff (Brighton)
517	,, 12	M. P.	F.	17	—	Scarlet fever	C	—	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 1 year after)	Dr. E. Madden (Bromley)
518	,, 12	I. C. H.	F.	15¼	1 year	Rapid growth	C	Left mod.	Left mod.	Mod.	Moderate	—	72	Much improved	Dr. Dyce-Brown

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								Ribs Posteriorly.	Erectores Spinæ						
	1890														
519	Mar. 13	G. D.	F.	11	—	Always delicate	C	—	Left trace	—	Moderate	—	24	Much improved	Dr. Thomas Barlow
520	,, 15	A. R.	M.	14	—	Measles 4 times	C	—	Left mod.	Slight	Severe	—	12 weekly	Much improved (confirmed 2 years after)	—
521	,, 18	F. S.	F.	11¾	—	Rapid growth	C	—	Left mod.	Slight	Moderate	—	48	Much improved	Dr. Uhthoff (Brighton)
522	,, 18	L. R. B.	F.	14	4 years	Pneumonia	C	Left trace	Left mod.	Severe	Moderate	—	72	Improved (confirmed 1 year after)	Dr. J. Craig
523	,, 25	A. M. G.	F.	14	2 years	Rapid growth	C	Left mod.	Left severe	—	Moderate	2 hours daily lying	72	Much improved (confirmed 2½ years after)	—
524	,, 25	B. W.	M.	7	—	Rapid growth	S	Right mod.	Left mod.	—	Moderate	—	48	Much improved (confirmed 1 year after)	Late Dr. A. Buck
525	,, 26	R. B.	F.	9	—	Hereditary See Sister, No. 514	S	—	Left trace	—	Severe	—	24	Much improved	—
526	,, 27	M. B.	F.	10¾	—	Always delicate	C	—	Left mod.	—	Moderate	—	72	Improved	Dr. Massiah (Didsbury)
527	,, 29	G. R.	F.	9	3 years	Rapid growth	C	—	Right trace	Mod.	Severe	—	72	Much improved (confirmed 3 years after)	—
528	,, 29	E. A.	F.	18½	4 years	Hereditary See Sister, No. 529	S	—	Right mod.	Severe	Moderate	Lying 1 hour daily	72	Improved, followed by relapse	—
529	,, 29	C. A.	F.	13½	1 year	Hereditary See Sister, No. 528	S	Right severe	Left mod.	—	Severe	—	72	Improved	—
530	Apr. 2	B. C.	F.	15	¾ year	Hereditary Paternal Aunt and other relatives scoliotic	S	Left (above) severe, right (below) severe	Left mod.	—	Trace	Felt jacket	72	Much improved (confirmed 1 year after)	Dr. R. W. Edginton (Birmingham)
531	,, 12	E. P.	F.	7½	—	Acute rheumatism	C	—	—	—	Severe	—	24	Improved, then relapse	Dr. Duke (Clapham Common)
532	,, 15	A. L.	F.	16	4 years	—	S	Right mod.	Left mod.	Severe	Moderate	2 hours daily lying	72	Much improved	—
533	,, 18	M. W.	F.	13	—	Rapid growth	C	—	—	—	Severe	—	72	Much improved	—
534	,, 21	P. N.	F.	4½	—	—	C	—	Left mod.	—	Moderate	—	32	Improved	Dr. Dyce-Brown
535	,, 22	E. B.	F.	10	—	Pneumonia	C	Right *anteriorly* mod.	—	Mod.	Moderate	—	48	Much improved	—

536	Apr. 23	L.T.B.	F.	19	3 years	Hereditary See Sister, No. 585	ↄ	Right mod.	Right mod.	Slight	Trace	—	72	Much improved (confirmed 2 years after)	—
537	,, 26	H. F.	M.	12	—	Right eye very deficient sight	C	Left mod.	Left mod.	—	Trace	—	72	Much improved	Mr. John Tweedy
538	,, 30	F. H.	F.	15¾	1 year	—	ƨ	Right mod.	Left severe	—	Trace	—	72	Much improved	—
539	,, 30	J.W.B.	M.	13¾	—	Influenza	C	Left mod.	Left mod.	—	Moderate	—	86	Much improved (confirmed 1 year after)	Dr. Marriott (Leicester)
540	May 1	E.M.E.C.	F.	15	—	—	C	Left mod.	Left severe	—	Trace	—	30	Improved	Dr. Craig (Shelton)
541	,, 1	H. T.	F.	34	—	Always delicate	C	—	Left mod.	Severe	Trace	—	72	Much improved	—
542	,, 6	G. S.	M.	16	—	Hay asthma	ↄ	—	—	—	Trace	—	12 weekly	Much improved	Sir Douglas Powell, Bart.
543	,, 7	F. C.	F.	9	4 years	—	C	Left mod.	—	—	Severe	—	72	Much improved (confirmed 3 years after)	Dr. Dyce-Brown
544	,, 9	E. B.	F	19	8 years	—	S	—	Right mod.	Severe	Trace	Steel supports 8 years	52	Much improved (confirmed 1 year after)	—
545	,, 10	F. C. I.	F.	16½	10 years	—	C	Left trace	Left severe	—	Moderate	—	72	Much improved	Dr. Heath (Southport)
546	,, 12	A. M. N.	F.	15	1 year	Pneumonia	ƨ	Right severe	Left severe	—	Trace	Steel support	72	Much improved (confirmed 1 year after)	—
547	,, 12	M. H.	F.	16½	3 years	—	C	—	—	—	Trace	—	48	Much improved	—
548	,, 12	G. D. T.	M.	16	—	Asthma	C	—	Left mod.	—	Trace	—	8	Improved	—
549	,, 14	A. M. N.	F.	12	—	Hereditary See Sisters, Nos. 575 and 668. Asthma	C	Left mod.	—	—	Trace	—	104	Much improved (confirmed 5 years after)	—
550	,, 15	M. E. S.	F.	34	22 years	—	C	—	Left mod.	Severe	Moderate	—	72	Much improved (confirmed 1⅓ year after)	Dr. Uhthoff (Brighton)
551	,, 16	L. C.	F.	13	—	Rapid growth	C	Left mod.	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 1½ year after)	Dr. G. de B. Watson (Finsbury Park)
552	,, 19	R. L.	F.	14¾	—	Hereditary See Sister, No. 635 Very delicate	ƨ	Right severe	Left mod.	—	Severe	—	72	Much improved (confirmed 1 year after)	Dr. M. Dunbar (Clapham Common)
553	,, 20	E. J.	F.	7	—	Hereditary See Sister, No. 557	C	—	Left mod.	—	Moderate	—	24	Improved	—
554	,, 20	T. H. W.	F.	14	—	Rapid growth	C	—	Left mod.	—	Trace	—	72	Much improved (confirmed 1½ year after)	—
555	,, 21	D. H.	F.	11½	—	Hereditary See Sisters, Nos. 964 and 965 Rapid growth	C	—	Left trace	—	Moderate	—	24	Much improved (confirmed 6 years after)	—

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	1890														
556	May 22	G. G.	M.	16	—	—	S	Right severe	Left extreme	—	Severe	Steel support	18	Much improved	Dr. P. Wells
557	,, 22	V. J.	F.	9½	—	Hereditary See Sister, No. 553	S	Right *anteriorly* mod.	—	—	Moderate	—	24	Much improved	—
558	,, 28	R. N.	M.	7	5 years	—	S	Right trace	Left mod.	—	Moderate	Steel support	72	Much improved (confirmed 4 years after)	Dr. Brown-Murdoch (Edinburgh)
559	,, 29	E. L.	F	17	2 years	Hereditary See Sister, No. 565	C	Left mod.	Left severe	—	Trace	—	72	Much improved	—
560	,, 30	A. S.	F.	18	3 years	Rapid growth	C	Left trace	Left mod.	—	Trace	—	72	Much improved (confirmed 6 years after)	Dr. Dyce-Brown
561	,, 31	V. H.	F.	7½	—	Hereditary See Sister, No. 562	S	Right trace	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
562	June 2	M. H.	F.	8½	—	Pneumonia Hereditary See Sister, No. 561	S	Right mod.	Right mod.	—	Trace	—	72	Improved, then relapse	—
563	,, 3	E. S.	F.	11¾	—	Always delicate	S	Right trace	Left mod.	—	Severe	—	72	Much improved (confirmed 2 years after)	Dr. Madden (Bromley)
564	,, 4	F. P.	M.	12	—	Asthma	C	Left trace	Left trace	—	Severe	Spinal support	72	Much improved	Dr. Ford Anderson (Hampstead)
565	,, 5	D. L.	F.	19	1½ year	Hereditary See Sister, No. 559	S	Right severe	Left mod.	Slight	Moderate	Spinal support	72	Much improved	—
566	,, 6	G. R.	F.	15	—	—	S	Left (below) trace	Left severe	Severe	Moderate	—	72	Much improved	Dr. Ford Anderson
567	,, 9	C. G.	M.	9	—	Pneumonia	C	—	Left mod.	—	Severe	—	72	Much improved	—
568	,, 10	E. P.	F.	17	2 years	Born in India	C	Left mod.	Left severe	Slight	Moderate	—	72	Much improved	—
569	,, 14	K. B.	F.	26	—	—	C	Left trace	Left mod.	Severe	Moderate	Felt jacket	24	Much improved	—
570	,, 14	R. S.	F.	16⅔	—	Rapid growth	S	Left (above) mod., right (below) mod.	Right mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
571	,, 17	N. T.	F.	14	2 years	Rapid growth	S	Right mod.	Left mod.	Severe	—	—	72	Much improved	Dr. Fleury
572	,, 18	E. D.	F.	16	1½ year	Born in India	S	Right mod.	Left mod.	Slight	Moderate	—	72	Much improved	—
573	,, 19	M. L.	F.	23	10 years	Always delicate	S	Right trace	Left severe	Severe	Moderate	—	72	Much improved (confirmed (1 year after)	—

574	June 20	F. V.	F.	10¾	—	Born in W. Indies	S	Right severe	Left mod.	—	Severe	4 hours daily lying	72	Improved, followed by relapse	Dr. Izal Anderson
575	,, 23	E. N.	F.	23	2 years	Hereditary See Sisters, Nos. 549 and 668	S	Right (above) trace, left (below) trace	Left severe	Slight	Moderate	—	72	Much improved	—
576	,, 23	B. M.	F.	13	—	Rapid growth	S	Right severe	Left mod.	—	Moderate	—	72	Much improved (confirmed 1¾ year after)	Dr. A. G. Thomas (Newport, Mon.)
577	,, 23	M. E. P.	F.	12¾	2 years	Hereditary Paternal Grandmother scoliotic	S	Left (above) trace, right (below) mod.	—	—	Moderate	—	72	Not improved	—
578	,, 27	L. L.	M.	18½	—	Hereditary See Sisters, Nos. 389 and 395	C	—	Left mod.	—	Moderate	—	36	Much improved	Dr. Lauder Brunton
579	,, 28	E. S.	F.	16	1½ year	—	C	Left (below) trace	Left mod.	Severe	Trace	—	72	Much improved	Dr. Jane H. Walker
580	July 1	P. O.	F.	14	—	Delicate Rapid growth	C	Left mod.	Left mod.	—	Moderate	—	Under Dr. J. H. W. 72	Much improved	—
581	,, 2	A. M. D.	F.	16½	1 year	Hereditary See Brother, No. 931	C	—	Left severe	Severe	—	—	72	Much improved (confirmed 2½ years after)	—
582	,, 2	J. W.	F.	16¾	—	Pneumonia	C	—	Left trace	Mod.	Severe	—	36	Much improved	—
583	,, 7	O. B. H.	F.	9¾	1 year	—	C	—	Left mod.	—	Moderate	Massage	24	Much improved	—
584	,, 8	H. M. B.	F.	11	—	—	S	Left (above) mod., right (below) mod.	Right severe	—	Severe	Felt jacket	72	Much improved	—
585	,, 9	L. B.	F.	17¾	2 years	Hereditary See Sister, No. 536	C	—	Left mod.	—	Moderate	—	72	Much improved (confirmed 4 years after)	—
586	,, 9	E. H.	F.	23	5 years	—	S	Left (upper) mod., right (lower) severe	Left severe	Severe	—	—	72	Much improved (confirmed 1½ year after)	Dr. Black Noble
587	,, 14	G. M.	F.	14½	—	Rapid growth	S	Left trace	Right trace	—	Moderate	—	72	Much improved (confirmed 4½ years after)	—
588	,, 14	M. H.	F.	14	—	Rapid growth	C	Left mod.	Left severe	—	Trace	—	72	Much improved (confirmed 1 year after)	Dr. Branfoot (Brighton)
589	,, 15	F. C.	F.	15	—	—	C	Right mod.	Right mod.	—	Severe	—	72	Much improved	—
590	,, 16	M. F. C.	M.	35	4 years	Soudanese fever	C	Right trace	Right mod.	Severe	—	Steel supports 2 years	36	Much improved	—

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								Ribs Posteriorly.	Erectores Spinæ.						
591	1890 July 18	S. W.	F.	6	—	—	S	Right trace	Left trace	—	Trace	—	48	Much improved	—
592	,, 26	A. J.	F.	19	18 years	Always delicate	C	Right severe	—	Severe	Trace	6 to 8 hours daily lying	72	Much improved (confirmed (1½ year after)	—
593	,, 28	A. C.	F.	16½	¼ year	Hereditary See Sister, No. 594 Rapid growth	S	Left severe	Right mod.	Slight	Trace	—	72	Much improved	Dr. T. Barlow
594	,, 28	K. C.	F.	14½	—	Hereditary See Sister, No. 593	S	Right trace	Left severe	—	Moderate	—	72	Much improved	—
595	,, 29	M. P.	F.	15⅓	1½ year	Born in India Several years there	S	Right severe	Left mod.	—	Moderate	Barwell's bandages	72	Much improved	—
596	,, 30	C.M.B.	F.	17	½ year	Rapid growth	C	Left mod.	Left mod.	Severe	Trace	—	72	Much improved	—
597	Aug. 1	F. W.	F.	18	¼ year	7 months' child	S	Right severe	Left severe	Mod.	Trace	—	72	Much improved (confirmed 3 years after)	Dr. Nicholson (Clifton, Bristol)
598	Sept. 5	L.M.A.	F.	13	3 years	—	C	Left mod.	Left mod.	Mod.	—	—	72	Much improved (confirmed 2 years after)	—
599	,, 15	L. S.	F.	13¾	¾ year	Hereditary See Sister, No. 612	S	Right mod.	Left severe	Severe	Moderate	Steel support	120	Much improved	—
600	,, 17	G. M.	F.	12¾	1½ year	Pneumonia several times	S	Right mod.	Left trace	Slight	Moderate	—	96	Much improved	Dr. Lightfoot (Newcastle-on-Tyne)
601	,, 17	Mrs. C.	F.	54	40 years	—	C	Right extreme	Right trace	Mod.	—	Steel supports 20 years	24	Improved	—
602	,, 18	F. C.	M.	17½	4 years	—	S	Right severe	Left severe	—	—	—	12 weekly	Much improved (confirmed 1½ year after)	Dr. May (Catford)
603	,, 19	M. S.	F.	13½	½ year	Hereditary See Sisters, Nos. 620, 621, and 641 Parents very elderly	S	Left mod.	Right mod.	Mod.	Moderate	—	72	Much improved (confirmed 1½ year after)	Dr. Grigg
604	,, 20	G. B. M.	F.	12	1 year	Hereditary See Sister, No. 654 Rapid growth	S	—	Left mod.	—	Moderate	Steel support	72	Much improved (confirmed 1 year after)	Dr. R. Neale
605	,, 22	B. D.	F.	11½	—	—	C	—	—	Mod.	Trace	—	24	Much improved	Dr. Madden (Bromley)
606	,, 22	E. C.	F.	11	2 years	Father aged	C	Right severe	Right mod.	—	Moderate	Steel support 1 year	96	Improved, then relapse	Dr. Axford (Southsea)
607	,, 23	M. G.	F.	15	½ year	—	C	—	Left mod.	Severe	Moderate	—	72	Much improved	—

608	Sept. 24	M. C.	F.	18¾	1 year	Rapid growth	C	—	Left severe	Slight	Trace	—	72	Much improved	Dr. R. C. Bowles
609	,, 24	B. P.	M.	14	—	Pneumonia	C	Left trace	Left mod.	Severe	Severe	—	72	Much improved	—
610	,, 25	V. P.	F.	18½	2 years	Always delicate Hereditary See Sisters, Nos. 611 and 770	C	—	Left mod.	Severe	Trace	—	72	Much improved	Dr. Neild (Tunbridge Wells)
611	,, 25	B. P.	F.	14	—	Rapid growth Hereditary See Sisters, Nos. 610 and 770	C	—	Left mod.	—	Moderate	—	48	Much improved	—
612	,, 25	D. S.	F.	10	—	Hereditary See Sister, No. 599	C	—	Left trace	—	Severe	—	24	Much improved (confirmed 1 year after)	—
613	,, 26	D. R.	F.	19	½ year	Rapid growth	C	—	Left trace	Mod.	Trace	—	24	Much improved	Dr. E. Mackey (Brighton)
614	,, 27	R. M.	F.	17	1 year	Born in India, and 8 years there	S	—	Left mod.	Slight	—	3 hours daily lying	24	Much improved	—
615	,, 29	E. M. S.	F.	13¾	—	Hereditary Maternal Aunt and Cousin both very scoliotic	S	Right severe	Left severe	—	Severe	—	72	Much improved (confirmed 1½ year after)	Dr. H. Shackleton (Sydenham)
616	,, 30	W. M.	F.	11	—	Hereditary Elder Sister scoliotic	C	—	—	Mod.	Moderate	—	24	Improved, followed by relapse	—
617	Oct. 3	P. N.	M.	10	—	Always delicate	S	Right trace	Left trace	—	Moderate	—	48	Much improved	Dr. Dyce-Brown
618	,, 3	W. G.	F.	10⅓	—	Congenital left hip dislocation	C	Left trace	Left severe	Slight	—	—	72	Much improved (confirmed 5 years after)	—
619	,, 6	B. E.	F.	13⅔	¼ year	Rapid growth	C	Left mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	Dr. W. Soltau-Eccles
620	,, 6	E. S.	F.	10¼	—	Hereditary See Sisters, Nos. 603 and 621	C	—	Left mod.	Mod.	Moderate	—	72	Much improved (confirmed 1½ year after)	—
621	,, 6	E. S.	F.	9½	—	Hereditary See Sisters, Nos. 603 and 620	C	—	Left trace	—	—	—	72	Improved (followed by relapse)	—
622	,, 8	H. M. M.	F.	19	10 years	Hereditary See Sister, No. 686	C	Left severe	Left mod.	Severe	Trace	—	72	Much improved (confirmed 1 year after)	Dr. Whitehouse (Sunderland)
623	,, 8	F. I.	F.	15⅓	1½ year	—	C	Right *anteriorly* mod.	—	Slight	Trace	Spinal support	72	Improved (followed by relapse)	—
624	,, 9	E. C. F.	F.	24	13 years	—	C	—	Left mod.	Severe	Trace	Steel supports 4 years	72	Much improved (confirmed 4 years after)	—
625	,, 11	L. R.	F.	44	25 years	—	S	—	Left severe	Severe	Trace	Lying down 3 hours	72	Much improved	—

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626	1890 Oct. 13	M. C.	F.	11⅓	2 years	Hereditary See Sister, No. 630	C	Left trace	Left mod.	—	Trace	—	72	Much improved	Dr. Uhthoff (Brighton)
627	,, 14	D. S.	F.	8⅔	2 years	Rapid growth Hereditary Mother scoliotic	C	Right *anteriorly* mod.	—	—	Severe	2 hours daily lying	48	Much improved	—
628	,, 15	A. D.	F.	10⅔	4 years	—	S	Right extreme	Left extreme	Mod.	Severe	Massage	72	Much improved	—
629	,, 15	E. C.	F.	10¼	—	—	C	Left trace	Left trace	—	Trace	—	24	Much improved	—
630	,, 17	A. C.	F.	23	13 years	Pneumonia	S	—	Left trace	Mod.	Trace	—	48	Much improved	—
631	,, 17	G. K.	F.	13	4 years	See Sister, No. 626 Rapid growth	S	Right mod.	Right mod.	Mod.	Trace	—	96	Improved	—
632	,, 18	E. L.	F.	14⅔	1½ year	—	S	Right mod.	Left mod.	Mod.	Severe	—	72	Much improved	—
633	,, 20	K. R.	F.	12½	¼ year	Hereditary See Sister, No. 665	C	—	Left trace	—	Severe	—	48	Much improved (confirmed 4½ years after)	Dr. Mills
634	,, 21	P. G.	F.	11¾	—	Lung delicacy	S	—	Left mod.	—	Trace	—	48	Much improved (confirmed 3½ years after)	Sir Douglas Powell, Bart.
635	,, 21	L. I.	F.	28	14 years	Hereditary See Sister, No. 552	C	Left mod.	Left severe	Extreme	Moderate	Steel support	108	Much improved (confirmed 1½ year after)	—
636	,, 22	E. M. L.	F.	22½	8 years	—	S	Right severe	Left severe	Severe	Moderate	Felt jacket	72	Much improved (confirmed 4½ years after)	Partly treated by Dr. C. E. Abbott
637	,, 22	A. W.	F.	28	17 years	—	C	Left mod.	Left mod.	Severe	Trace	Spinal supports	72	Much improved (confirmed 5 years after)	—
638	,, 22	E. E. C.	F.	14¼	5 years	Hereditary See Sister, No. 646 Rapid growth	S	Left trace	Right mod.	—	Trace	Lying down 1 hour daily	72	Much improved (confirmed 1½ year after)	Dr. U. S. Eccles (Upper Norwood)
639	,, 23	D. K.	F.	16½	3 years	Rapid growth	C	—	Right trace	—	Trace	—	24	Much improved	—
640	,, 24	F. S.	F.	14	5 years	Rapid growth	C	Left trace	Left severe	—	Trace	Felt jacket 1 year	82	Much improved	Dr. M. Dunbar (Clapham Common)
641	,, 25	G. S.	M.	6¼	—	Hereditary See Sisters, Nos. 602, 620, and 621	C	—	—	—	Moderate	—	39	Much improved (confirmed 1 year after)	—

642	Oct. 27	E. P.	F.	10	—	Diphtheria	C	Left trace	Left mod.	Mod.	Severe	—	72	Much improved (relapse 3 years after)	Dr. Grigg
643	,, 30	I. S. B.	F.	19	5 years	Hereditary See Sister, No. 644	S	Left (above) mod., right (below) severe	Left severe	Mod.	Moderate	Steel supports 2 years	72	Much improved	Dr. Clement-Godson
644	,, 31	L. A. B.	F.	12	½ year	Hereditary See Sister, No. 643	C	Left trace	Left mod.	—	Moderate	—	27	Improved	—
645	,, 31	Mrs. D.	F.	36	24 years	—	C	Right severe	Left extreme	Severe	—	Felt jacket	72	Much improved	—
646	Nov. 3	C. I. C.	F.	10½	2 years	Hereditary See Sister, No. 638	C	—	Left mod.	—	Moderate	—	72	Much improved (confirmed 3 years after)	Dr. W. S. Eccles (Upper Norwood)
647	,, 7	M. H.	F.	15¾	12 years	—	C	—	Left severe	—	Moderate	Spinal supports	48	Much improved	Dr. Julius Jacobson
648	,, 8	E. B.	F.	13	1 year	Hereditary Mother scoliotic	C	Right mod.	Left mod.	—	Severe	—	72	Much improved (confirmed 2 years after)	—
649	,, 10	J. S.	F.	15	3 years	Violin playing	C	Right *anteriorly* severe	Left mod.	Severe	Trace	—	36	Improved	Mr. H. Couling (Brighton)
650	,, 11	E. Y.	F.	13	—	Rapid growth	C	Left mod.	Left mod.	—	Trace	—	72	Much improved	Dr. Ford Anderson (Hampstead)
651	,, 12	F. B. L.	F.	14½	1 year	Rapid growth. Left eye very defective	C	—	Left mod.	Severe	Severe	—	72	Much improved	Dr. Grigg
652	,, 12	Mrs. R.	F.	50	34 years	—	C	Left severe	Left severe	Severe	—	Felt jacket	43	Improved	—
653	,, 13	F. M.	F.	44	28 years	—	S	Right trace	Left mod.	Severe	Moderate	—	72	Much improved (confirmed 6 years after)	—
654	,, 15	F. M.	F.	10	—	Hereditary See Sister, No. 604	C	—	Left trace	—	Moderate	—	24	Much improved (confirmed 1½ year after)	Dr. R. Neale
655	,, 17	F. H.	F.	15	5 years	Very delicate	C	—	Left mod.	Severe	Trace	—	72	Much improved	Dr. Willan (Hanley Castle)
656	,, 18	M. M.	F.	13	—	—	C	Right trace	Left mod.	—	Severe	—	72	Much improved	—
657	,, 19	M. W.	F.	14	½ year	After scarlet fever	C	—	Left severe	Mod.	Moderate	2 hours daily lying	72	Much improved	Dr. Marriott (Leicester)
658	,, 19	M. B.	F.	15	1½ year	—	S	Right extreme	Left extreme	—	Trace	Felt jacket	72 Under Dr. Abbott's treatment	Much improved	Dr. Bindley (Brighouse)
659	,, 19	G. L.	F.	12½	1 year	Hereditary See Brother, No. 863	C	Left trace	Left mod.	—	Severe	1 hour daily lying	72	Much improved (confirmed 1½ year after)	—
660	,, 20	L. R.	F.	18	2 years	—	S	Right severe	Left severe	—	Severe	—	72	Much improved (confirmed 1 year after)	—

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								Ribs Posteriorly.	Erectores Spinæ.						
	1890														
661	Nov. 21	N. B.	F.	13	5 years	Hereditary See Sister, No. 745	C	—	Left mod.	Severe	Moderate	Spinal douches	72	Much improved	Dr. E. Mackey (Brighton)
662	,, 21	N. L.	F.	9½	—	Born in India —	S	—	Left mod.	—	Moderate	—	48	Much improved (confirmed 1½ year after)	—
663	,, 22	A. E.	F.	23	10 years	—	C	Left mod.	—	Severe	—	—	72	Much improved (confirmed 6 years after)	—
664	,, 26	M. M.	F.	16	1 year	Both parents very elderly	S	Right trace	Left severe	Severe	Severe	—	72	Much improved	—
665	,, 26	A. R.	F.	11	—	Hereditary See Sister, No. 633	C	—	Left trace	—	Severe	—	24	Much improved (confirmed 4½ years after)	Dr. Mills
666	,, 27	J. M. B.	F.	9	2 years	Hereditary See Nos. 671 and 882	C	Left mod.	Left trace	Slight	Moderate	—	58	Much improved (confirmed 1 year after)	—
667	,, 27	W. M.	M.	9¼	1 year	Always delicate Hereditary See Sister, No. 718	C	—	Left mod.	—	Severe	Spinal supports	72	Much improved	—
668	,, 27	F. N.	F.	19	1 year	Always delicate Hereditary See Sisters, Nos. 549 and 575	S	Right trace	Left mod.	—	Trace	—	72	Much improved	—
669	Dec. 1	M. M.	F.	11	½ year	Rapid growth	C	—	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 5 years after)	—
670	,, 1	M S.	F.	10½	2 years	Rapid growth	C	—	Left mod.	Slight	Moderate	Steel support	72	Much improved	—
671	,, 4	N. B.	F.	12	1 year	Hereditary See Sisters, Nos. 666 and 882	C	Left mod.	Left mod.	Slight	Moderate	—	14	Improved	—
672	,, 8	N. C.	F.	11¾	—	Rapid growth	S	Right trace	Left mod.	Slight	Moderate	—	36	Improved	—
673	,, 10	H. B.	M.	18	—	Delicate	C	Left trace	Left trace	Slight	—	—	12 weekly	Much improved	Sir Douglas Powell, Bart.
674	,, 10	J. R.	F.	29	24 years	Delicate lungs	C	—	—	—	—	—	72	Much improved (confirmed 4 years after)	—
675	,, 12	D. R.	F.	13¼	½ year	Rapid growth	S	Right mod.	Left mod.	—	Moderate	Steel supports	72	Much improved (confirmed 3 years after)	—
676	,, 18	M. H.	F.	16¾	6 years	One of twins	S	Right extreme	Left severe	Severe	Moderate	Steel support for 6 years	72	Much improved	—

677	Dec. 19 1891	C. M.	F.	25	7 years	—	S	Right mod.	Left mod.	Severe	Moderate	—	72	Much improved (confirmed 1½ year after)	—
678	Jan. 7	E. W.	F.	13¼	3 years	Hereditary See Sister, No. 765	C	—	Left mod.	Slight	Moderate	—	72	Much improved	Dr. Huxley (Torquay)
679	,, 9	M. S.	F.	14	2½ years	Rapid growth Hereditary Father has extreme scoliosis	S	Right severe	Left severe	Slight	Moderate	Steel supports 2 years	72	Much improved (confirmed 3 years after)	—
680	,, 10	M. W.	F.	16	11 years	Very delicate	S	Right extreme	Left severe	Slight	—	Spinal supports 11 years	72	Much improved (confirmed 4 years after)	—
681	,, 12	E. M.	F.	12	1 year	Hereditary See Brother, No. 682	S	Right trace	Left mod.	Slight	Moderate	2 hours daily lying	72	Much improved	—
682	,, 14	L. M.	M.	10	—	Hereditary See Sister, No. 681	C	Right *anteriorly* mod.	—	—	Moderate	—	48	Much improved	—
683	,, 16	H. B.	F.	14	1 year	—	S	Right severe	Left severe	Slight	—	2 hours daily lying	72	Much improved (confirmed 2 years after)	Dr. Ann E. Clark (Birmingham)
684	,, 21	L. M.	F.	10½	2 years	Born in India	C	Left mod.	Left mod.	Severe	Moderate	—	72	Much improved	—
685	,, 23	M. H.	F.	15¼	8¼ years	Hereditary See Sister, No. 712	S	Right severe	Left severe	Severe	Severe	Steel and plaster and felt jackets 8 years	72	Much improved (confirmed 1 year after)	—
686	,, 23	W. M.	F.	29	15 years	Hereditary See Sister, No. 622	C	—	Left mod.	Severe	—	—	72	Much improved	—
687	,, 27	C. R.	F.	15½	4 years	—	S	Right mod.	Left mod.	Mod.	Severe	—	72	Much improved	—
688	Feb. 2	D. E. M.	F.	14	3 years	Rapid growth	C	Left trace	Left severe	—	—	—	72	Much improved	—
689	,, 3	L. V.	F.	14	—	West Indian	C	Left mod.	Left mod.	Mod.	Moderate	—	78	Improved, then relapse	Dr. H. G. Thompson (Croydon)
690	,, 3	P. K.	M.	8	1 year	Hereditary See Brother, No. 789	C	—	Left mod.	—	—	—	72	Much improved (confirmed 2 years after)	Dr. John M. Bright (Forest Hill)
691	,, 6	N. G.	M.	13	—	Always delicate Hereditary 2 Brothers scoliotic	C	Left trace	Left mod.	—	—	—	48	Much improved	—
692	,, 6	W. H.	F.	12¾	2 years	—	S	Right trace	Left mod.	—	Moderate	—	72	Much improved	—
693	,, 7	G. A.	F.	14¾	2 years	Rapid growth	C	Left trace	Left mod.	Severe	Moderate	2 hours daily lying	72	Much improved	Dr. M. Dunbar (Clapham Common)
694	,, 9	H. S.	F.	21	5 years	Hereditary See Sister, No. 746	C	Right mod.	Right severe	Severe	—	—	72	Much improved (confirmed 1 year after)	Dr. Uhthoff (Brighton)
695	,, 9	E P.	F.	15	1 year	Rapid growth	C	Left severe	Left severe	Severe	—	—	72	Much improved	—
696	,, 13	E. S. F.	F.	35	20 years	—	S	Right mod.	Left severe	Severe	—	Felt jacket	72	Much improved (confirmed 1½ year after)	—

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								Ribs Posteriorly.	Erectores Spinæ.						
	1891														
697	Feb. 17	E. W.	F.	57	48 years	—	S	Right severe	Left severe	—	—	20 years of spinal supports	24	Improved	—
698	,, 17	E. P.	F.	20	2 years	Influenza	C	Left trace	Left severe	Severe	Severe	—	96	Much improved	—
699	,, 17	G. E. C.	F.	38	—	Hereditary Mother has severe scoliosis; 2 Sisters and a Brother were scoliotic	C	—	Left severe	Severe	—	—	72	Much improved	—
700	,, 18	M. F.	F.	$7\frac{3}{4}$	$\frac{1}{4}$ year	—	C	Left trace	Left mod.	—	Moderate	Lying down 3 hours daily	72	Much improved (confirmed 4 years after)	Dr. Rich (Ryde)
701	,, 18	M. L.	F.	19	8 years	Hysteria	C	Left mod.	Left mod.	Severe	Trace	—	72	Much improved (confirmed 5 years after)	Dr. Mary Scharlieb
702	,, 18	E. C. S.	M.	$14\frac{1}{2}$	1 year	—	C	Left trace	Left mod.	—	Moderate	—	12 weekly	Much improved	—
703	,, 19	Mrs. C.	F.	43	30 years	—	S	Right (above) trace, left (below) mod.	Left severe	Severe	—	—	72	Improved	—
704	,, 20	A. M.	F.	$10\frac{1}{2}$	—	Rapid growth	S	Right trace	Left severe	Slight	Severe	—	72	Improved, then relapse	Dr. Uhthoff (Brighton)
705	,, 20	A. D.	F.	21	5 years	Always delicate	C	Left mod.	Left mod.	Severe	Moderate	Spinal support	89	Much improved	—
706	,, 23	M. S.	F.	$12\frac{3}{4}$	1 year	Delicate	S	Left (above) mod., right (below) trace	Left mod.	—	—	—	72	Much improved (confirmed $1\frac{1}{2}$ year after)	Dr. Gilbert (Reigate)
707	,, 24	A. Y.	F.	21	8 years	Rapid growth	C	Right mod.	Right trace	Slight	Trace	—	72	Much improved (confirmed 2 years after)	—
708	,, 24	A. C.	F.	21	11 years	Survivor of twins	C	Left mod.	Left severe	Severe	Moderate	—	96	Much improved	Dr. U. E. Ransom (Needham Market)
709	,, 28	D. P.	F.	$13\frac{1}{2}$	1 year	Hereditary See Cousin, No. 735	C	Left trace	Left severe	Severe	Moderate	4 hours daily lying	72	Much improved (confirmed 5 years after)	—
710	,, 28	M. S.	F.	$9\frac{1}{4}$	2 years	Rapid growth Hereditary See Sister, No. 713 Always delicate	C	Left mod.	—	—	Severe	—	72	Improved (followed by relapse)	—
711	Mar. 6	E. R.	F.	$16\frac{3}{4}$	5 years	After scarlet fever	S	Right severe	Left severe	Extreme	—	Steel support and felt jacket 2 years	72	Improved (followed by relapse)	Dr. J. G. D. Douglas (Bournemouth)

712	Mar. 6	M. H.	F.	16½	6½ years	Hereditary See Sister, No. 685		Right mod.	Right mod.	Mod.	Severe	Plaster and felt jacket and special stays 6 years	72	Much improved (confirmed 1 year after)	—
713	,, 6	C. S.	M.	8¼	—	Hereditary See Sister, No. 710		Right *anteriorly* mod.	Left mod.	—	Moderate	—	72	Improved	—
714	,, 6	E. H.	F.	19	4 years	—		Left(above) trace, right (below) severe	Right extreme	Severe	—	Steel support 1 year	72	Much improved (confirmed 4 years after)	—
715	,, 7	E. B.	F.	16	4 years	Rapid growth		Right severe	Right trace	—	Trace	Lying down 2 hours daily	72	Much improved (confirmed 1 year after)	—
716	,, 9	L. D.	F.	22	4 years	—		—	Right mod.	Severe	—	—	72	Improved	Dr. S. Mackenzie
717	,, 11	E. H.	F.	22½	7 years	—		Left mod.	Left severe	Severe	Moderate	—	72	Much improved	Dr. Stephen Mackenzie
718	,, 16	L. M.	F.	8	3 years	Hereditary See Brother, No. 667 Rapid growth Delicate		Right *anteriorly* trace	—	—	Moderate	—	36	Much improved	—
719	,, 17	J. M.	F.	12½	5 years			Left mod.	Left mod.	—	Trace	Massage	72	Much improved	—
720	,, 18	M. T.	F.	14¾	3 years	Rapid growth Hereditary		Right mod.	Left mod.	Slight	Trace	—	72	Much improved (confirmed 4 years after)	—
721	,, 23	M. E. T.	F.	6¾	—	Hereditary Mother and other relatives scoliotic		Right *anteriorly* mod.	—	Mod.	Moderate	—	24	Much improved	—
722	,, 31	H. B.	F.	15	1 year	Hereditary See Sister, No. 253 Rapid growth		Right severe	Left severe	—	Severe	—	72	Much improved	—
723	April 1	A. S.	F.	15	1 year	Hereditary Paternal Aunt and Brother scoliotic		Right mod.	Left severe	—	Moderate	—	72	Much improved (confirmed 5 years after)	Dr. Lightfoot (Newcastle-on-Tyne)
724	,, 1	E. W.	F.	16	4 years	Hereditary 2 Cousins scoliotic		Left mod.	Left mod.	—	Trace	—	72	Much improved (confirmed 1 year after)	—
725	,, 1	M. H.	F.	5⅓	½ year	Rapid growth Delicate		Left mod.	Left mod.	—	Trace	—	72	Much improved (confirmed 2 years after)	—
726	,, 2	L. B.	F.	16	4 years	Hereditary Sister has severe scoliosis		Left trace	Left mod.	Slight	Trace	—	72	Much improved	—
727	,, 3	S. M.	M.	15½	—	—		—	Left mod.	—	Trace	—	12 weekly	Much improved	Mr. Thomas Cooke
728	,, 13	A. M. C.	F.	23	3 years	—		—	Left mod.	Severe	Moderate	—	72	Much improved	—
729	,, 13	A. W.	M.	32	21 years	—		Left severe	Right extreme	Severe	—	Steel support 11 years	12 weekly	Much improved (confirmed 3 years after)	—
730	,, 15	A. B.	F.	7⅞	⅔ year	Prematurely born Always delicate		Right trace	Left mod.	—	Moderate	—	72	Much improved (confirmed 4 years after)	—

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								Ribs Posteriorly.	Erectores Spinæ.						
731	1891 Apr. 15	C. T.	M.	5	—	Hereditary Mother scoliotic	C	—	—	—	Trace	—	24	Improved	—
732	,, 17	O. R.	F.	12½	3 years	Always delicate	S	Right trace	Left mod.	—	Trace	—	216	Much improved (confirmed 4 years after)	Dr. Clifford Allbutt (Cambridge)
733	,, 20	M. B.	F.	16¾	—	Hereditary Sister scoliotic	C	Left mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
734	,, 22	M. N.	F.	13	5 years	Always delicate	S	Right severe	Left extreme	—	Moderate	—	72	Much improved	Dr. Bindley (Brighouse)
735	,, 23	P. H. F.	F.	11	2 years	Hereditary. Grandmother extremely scoliotic; also see Cousin, No. 709	C	Right *anteriorly* mod.	—	—	Moderate	—	24	Much improved	—
736	,, 24	F. B.	M.	15	3 years	Hereditary Mother scoliotic	S	Right trace	Left mod.	—	—	—	12 weekly	Much improved	Dr. B. Duke (Clapham Common)
737	,, 28	E. E. I.	F.	12	¾ year	Rapid growth	C	—	—	Severe	Severe	—	72	Much improved	—
738	May 1	I. A.	F.	17	3 years	Hereditary See Sister, No. 183	C	Left mod.	Left severe	Mod.	Severe	—	72	Much improved	—
739	,, 2	G. C. A.	M.	15½	5 years	Hereditary See Sister, No. 753	C	Left trace	Left mod.	—	Severe	—	12 weekly	Much improved	Mr. Buckston Browne
740	,, 6	A. S.	F.	20	4 years	Hereditary See Sisters, Nos. 443 and 481	C	—	—	—	—	—	72	Much improved	—
741	,, 7	Mrs. B.	F.	28	3 years	—	S	Right mod.	Left trace	Severe	Trace	Steel support	72	Much improved	Dr. Uhthoff (Brighton)
742	,, 8	L. B.	F.	14½	2 years	—	S	Right severe	Left mod.	—	Severe	Felt jacket	72	Much improved	Dr. Jowers (Brighton)
743	,, 9	M. B.	F.	9	½ year	—	C	Left mod.	Left mod.	—	Severe	Lying down 6 to 8 hours daily	72	Much improved (confirmed 4 years after)	—
744	,, 9	A. E. M.	M.	14¾	—	Hereditary Brother scoliotic	C	Left severe	Left severe	Slight	—	—	36 alternate days	Improved (then relapse)	Mr. Alfred Scott (Brighton)
745	,, 16	K. B.	F.	16	—	Hereditary See Sister, No. 661	S	Right trace	Left mod.	—	—	—	24	Much improved	—
746	,, 20	E. S.	F.	12¾	2 years	Hereditary See Sister, No. 694	C	Left mod.	Left mod.	—	Moderate	—	72	Much improved	—
747	,, 20	A. Y.	F.	16¾	—	Hereditary 2 paternal Aunts are scoliotic	C	Left trace	—	—	Trace	—	81	Much improved (confirmed 5 years after)	—

748	May 21	A. C.	M.	5½	1½ year	Always delicate	C	Left trace	Left mod.	—	Moderate	—	72	Much improved (confirmed 4 years after)	Dr. Ford Anderson (Hampstead)
749	,, 22	K. H.	F.	16¼	1¼ year	Rapid growth	S	Right severe	Left mod.	—	Trace	Barwell's bandages	72	Much improved	—
750	,, 22	Mrs. C.	F.	52	40 years	—	C	—	Left trace	Severe	—	—	72	Much improved	—
751	,, 26	R. W.	M.	6¾	—	Premature birth Always delicate	C	—	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	Mr. Giffard (Brighton)
752	,, 27	L. H.	F.	35	25 years	Very neurotic	S	Right severe	Left mod.	Extreme	—	Steel support 25 years	48	Improved (followed by relapse)	Dr. Mantle (Halifax)
753	,, 28	E. A.	F.	14	—	Hereditary See Brother, No. 739	C	—	Left trace	—	Moderate	—	24	Much improved (confirmed 1 year after)	—
754	,, 29	E. F.	F.	36	24 years	Rapid growth —	S	Right severe	Left mod.	Extreme	Trace	Steel support	72	Much improved	—
755	June 8	M. C.	F.	9	—	Hereditary Brother scoliotic	S	Right trace	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	Mr. J. Couper (Grosvenor Street)
756	,, 9	G. E. S.	F.	26	3 years	Rapid growth	C	—	Left mod.	Severe	—	Massage	72	Much improved	Dr. Louisa Atkins
757	,, 10	A. I. C.	F.	36	—	—	C	—	Left mod.	Mod.	Severe	—	24	Improved	—
758	,, 20	E. H.	F.	10¼	1½ year	Hereditary Mother scoliotic	C	Left mod.	Left mod.	—	—	—	72	Much improved	—
759	,, 20	C. E. L.	F.	20	—	After influenza	C	—	Left trace	Extreme	Trace	—	72	Much improved (confirmed 5½ years after)	Dr. J. N. Winter (Brighton)
760	,, 22	S. M.	M.	4½	—	—	C	—	Left mod.	—	Moderate	—	48	Much improved	Dr. Ford Anderson (Hampstead)
761	,, 23	W. D.	M.	6¾	—	Hereditary Mother and maternal Grandmother and Great-grandmother all scoliotic	C	Left mod.	Left mod.	—	Severe	—	72	Much improved (confirmed 3 years after)	Dr. Ford Anderson (Hampstead)
762	,, 23	P. W.	F.	31	16 years	—	C	Left mod.	Left mod.	Severe	Trace	Felt jacket	72	Much improved (confirmed 1½ year after)	Dr. Murray (Newcastle-on-Tyne)
763	,, 26	A. S.	M.	16	1 year	Delicate Rapid growth	S	Right severe	Left severe	—	Trace	—	36 Alternate days	Improved	Sir J. Paget, Bart., and Dr. Norman Elliot (Denmark Hill)
764	,, 26	Mrs. L.	F.	33⅔	23 years	—	C	Right mod.	Right trace	Severe	—	—	72	Improved	—
765	,, 29	J. W.	F.	17	6 years	Hereditary See Sister, No. 678	C	Left severe	Left severe	Mod.	—	2 hours daily lying	72	Much improved	—
766	,, 29	E. E. M.	F.	27	10 years	Very tall	C	—	Left mod.	Severe	Moderate	—	72	Much improved (confirmed 3½ years after)	Dr. Eccles (Upper Norwood)

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								Ribs Posteriorly.	Erectores Spinæ.						
	1891														
767	July 1	F. D.	F.	16	2 years	Always delicate Violin playing	S	Right mod.	Left severe	—	Severe	—	72	Much improved	Dr. Schofield (Westbourne Terrace)
768	,, 2	K. B.	F.	13½	½ year	Hereditary Mother scoliotic	S	—	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 1½ year after)	—
769	,, 5	C. J. B.	F.	19	4 years	Rapid growth	S	Right trace	Left severe	Severe	—	Spinal supports	72	Improved	Dr. W. Gillibrand (Bolton)
770	,, 9	M. P.	F.	18	—	Hereditary See Sisters, Nos. 610 and 611	S	Right trace	Left mod.	—	Trace	—	24	Much improved	—
771	,, 10	M. M.	F.	14	—	Rapid growth	C	Left trace	Left mod.	—	Moderate	—	72	Much improved	—
772	,, 14	E. H.	F.	14	2 years	Always delicate	S	Left (above) severe, right (below) severe	Left severe	Severe	Trace	Felt jacket	72	Improved (followed by relapse)	Dr. J. Stuart (Brighton)
773	,, 15	E. P.	F.	12½	1 year	Rapid growth	C	Left trace	Left trace	Slight	Moderate	—	24	Much improved	—
774	,, 20	B. W.	F.	14½	3 years	Hereditary See Brother, No. 819	S	Right severe	Left mod.	Slight	Trace	—	72	Much improved (confirmed 2½ years after)	—
775	,, 21	F. P.	F.	8¾	2 years	After typhoid fever —	C	—	Left mod.	—	Moderate	Steel support 2 years	120	Much improved (confirmed 4 years after)	Dr. N. M. Shaffer (New York)
776	,, 21	E. M.	F.	21	8 years	After typhoid fever	S	Right severe	Left severe	Slight	Severe	Felt jacket and other support 5 years	72	Much improved (confirmed 2½ years after)	—
777	,, 22	M. K.	F.	13	1 year	Delicate	C	Left mod.	Left mod.	—	Moderate	Lying down 2 hours daily	72	Much improved	Dr. F. Anderson (Hampstead)
778	,, 23	H. B.	F.	18	3 years	Born in India	C	—	—	Slight	—	—	36	Much improved	—
779	,, 28	H. M.	F.	16	¼ year	—	S	Right mod.	Left severe	—	Trace	—	72	Improved (followed by relapse)	—
780	,, 29	M. E. L.	F.	13¼	2½ years	—	S	Right extreme	Left extreme	Mod.	Moderate	Steel support 1 year	72	Much improved (confirmed 1 year after)	—
781	Sept. 12	E. F.	F.	13½	—	Born in India	S	Right trace	Left mod.	Severe	Moderate	—	72	Much improved	Dr. Rich (Ryde, I.W.)
782	,, 14	A. H.	M.	18	3 years	—	C	—	Left trace	—	—	—	6 weekly	Much improved	Dr. Hughes (Brighton)

783	Sept. 14	M. E.	F.	13½	2 years	One of twins Hereditary Mother scoliotic	C	Left trace	Left mod.	—	Moderate	Massage	21	Much improved	—
784	,, 14	M. H.	F.	14	¼ year	Rapid growth	C	Left trace	Left mod.	—	Moderate	—	72	Much improved	—
785	,, 14	A. B.	F.	15	2 years	Always delicate	C	Left trace	Left trace	Severe	Moderate	1 hour daily lying	72	Much improved (confirmed 1 year after)	Dr. Marriott (Leicester)
786	,, 14	E. H.	F.	15	—	Hereditary See Sister, No. 787	S	Right trace	Left trace	—	Moderate	—	72 under Dr. Abbott	Much improved	Dr. C. E. Abbott (Cheltenham)
787	,, 14	B. H.	F.	14	½ year	Hereditary See Sister, No. 786	S	Left (above) trace, right (below) trace	Left mod.	Mod.	Trace	—	72 under Dr. Abbott	Much improved	Dr. C. E. Abbott (Cheltenham)
788	,, 15	F. B.	M.	11½	—	Premature birth Very delicate	C	Left trace	Left mod.	—	Severe	—	72	Much improved	Dr. Stephen Mackenzie
789	,, 16	G. K.	F.	7	—	Hereditary See Brother, No. 690	C	—	Trace	—	Moderate	—	72	Much improved (confirmed 1½ year after)	—
790	,, 16	S. S.	F.	25	5 years	—	C	Left mod.	Left mod.	Severe	—	Plaster jacket and steel support 1 year	72	Improved	—
791	,, 16	M. C.	F.	12½	—	Hereditary See Cousin, No. 342 Always delicate	S	Left (above) trace, right (below) trace	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 6 years after)	
792	,, 18	M. W.	F.	15½	3 years	Rapid growth	C	Left mod.	Left severe	—	Moderate	—	72	Much improved	—
793	,, 19	G. B.	F.	12	1½ year	—	C	Left mod.	Left mod.	Severe	Moderate	—	72	Much improved	—
794	,, 21	O. G.	F.	13	2 years	—	S	Right mod.	Left mod.	—	Severe	—	72	Improved, then relapse	—
795	,, 22	M.B.W.	F.	15	3 years	After measles	S	Right mod.	Left mod.	—	Severe	—	72	Much improved	Dr. A. Garrod Thomas (Newport, Mon.)
796	,, 23	F. G.	F.	15	2 years	One of twins Hereditary See Sister, No. 866, and Mother, No. 885	C	Left trace	Left mod.	Mod.	Moderate	Steel support 1 year	72	Much improved (confirmed 3 years after)	—
797	,, 24	N. M.	F.	14½	¾ year	Born in India, and stayed 5 years	C	—	Left mod.	—	—	2 hours daily lying	96	Improved	Dr. Hume (Newcastle-on-Tyne)
798	,, 25	B. M.	F.	14	—	Slight infantile paralysis right leg Rapid growth	C	Left mod.	Left mod.	—	—	—	72	Much improved	—
799	,, 28	M. K.	F.	14	1 year	Hereditary See Sister, No. 800	C	Left trace	Left mod.	—	Moderate	—	72	Much improved	Dr. Neild (Tunbridge Wells)
800	,, 28	L. K.	F.	17	2 years	Hereditary See Sister, No. 799	S	Left mod.	Right mod.	—	Trace	—	72	Much improved	—

No.	Date.	Patient.	Sex	Age brought to Author.	Duration of Scoliosis.	Causes of Scoliosis.	Description of Scoliosis.	Osseous Deformity. Ribs Posteriorly.	Osseous Deformity. Erectores Spinæ.	Pain.	Flat-Foot.	Previous Treatment.	No. of visits under Author's Treatment.	Result of Author's Treatment.	Sent to Author by
	1891														
801	Sept. 28	H. L.	F.	14½	2 years	—	C	Right *anteriorly* mod.	—	—	Moderate	2 hours daily lying	72	Much improved	—
802	,, 30	W. M.	M.	10½	2 years	Elder of twins Hereditary See No. 805	C	Left mod.	Left mod.	—	Moderate	2 hours daily lying	72	Much improved (confirmed 1 year after)	Dr. M. Dunbar (Clapham Common)
803	Oct. 2	M. E.	F.	17	10 years	—	S	Left extreme	Left extreme	—	Severe	Steel support 5 years	72	Much improved	—
804	,, 2	C.	F.	23	7 years	—	S	Right severe	Left severe	—	Severe	Steel support 2 years	72	Much improved (treatment by Dr. R. Oxley)	Dr. Rice-Oxley (Streatham)
805	,, 3	R. M.	M.	10½	—	Younger of twins Hereditary See Brother, No. 802	C	Right mod.	Right mod.	—	—	—	72	Much improved (confirmed 1 year after)	—
806	,, 5	L. G.	F.	8½	—	Rickets	C	Left trace	Left mod.	—	Trace	—	72	Much improved (confirmed 1 year after)	Dr. C. Chepmell (Brighton)
807	,, 6	R. W. F.	M.	12	5 years	Always delicate	C	Left mod.	Left mod.	—	Severe	—	72	Much improved	—
808	,, 6	S. M. S.	F.	17⅓	4 years	—	C	Left mod.	Left trace	Severe	Moderate	—	72	Much improved	—
809	,, 9	J. N.	F.	16	3 years	Hereditary. Mother scoliotic; also Sister. See No. 814	S	Right mod.	Left severe	Severe	Severe	—	72	Much improved	—
810	,, 12	E. B. A.	F.	12⅔	—	Hereditary Maternal Aunt scoliotic	C	—	Left severe	—	Severe	—	72	Improved (followed by relapse)	Dr. R. Hughes (Brighton)
811	,, 13	J. M. B.	F.	18½	3 years	—	S	—	Left mod.	Slight	—	—	48	Much improved (confirmed 1 year after)	—
812	,, 14	F. S.	F.	14¾	¾ year	Hereditary Mother and two Aunts scoliotic; also Sister. See No. 813	S	Right mod.	Left mod.	Slight	Moderate	—	72	Much improved	—
813	,, 14	M. S.	F.	12¾	1 year	Hereditary Mother and two Aunts scoliotic; also Sister. See No. 812	S	Right mod.	Left mod.	—	Severe	—	72	Much improved	—
814	,, 16	E. C. N.	F.	14¾	—	Hereditary Mother scoliotic; also Sister. See No. 809	C	Left mod.	Left severe	—	Severe	—	72	Much improved	—
815	,, 19	M. S.	F.	9	1 year	Hereditary See Sister, No. 845, and Brother, No. 978	S	Right mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—

816	Oct. 19	B. R.	F.	7	—	—	C	—	Left trace	—	Moderate	—	72	Much improved	—
817	,, 19	F. B.	F.	14	—	Hereditary. Elder Sister scoliotic	C	Left mod.	Left mod.	Mod.	Moderate	—	72	Much improved (confirmed 1 year after)	—
818	,, 20	T. V. H.	F.	5½	—	Hereditary See Sister, No. 111	C	—	Left trace	—	Moderate	—	72	Much improved	Dr. Ford Anderson (Hampstead)
819	,, 23	G. W.	M.	12	—	Hereditary See Sister, No. 774	C	Left mod.	Left mod.	—	Moderate	—	38	Improved	—
820	,, 24	O. D.	M.	7	1 year	Asthmatic	C	Right trace	Right mod.	—	Severe	—	72	Much improved (confirmed 1 year after)	Sir Douglas Powell, Bart.
821	,, 27	Mrs. B.	F.	40	4 years	—	C	Right mod.	Right trace	Severe	—	—	72	Much improved	Mr. John Tweedy
822	,, 30	M. H.	F.	15½	—	Rapid growth	C	Right trace	—	Slight	Moderate	—	48	Much improved	Sir Douglas Powell, Bart.
823	Nov. 3	M. C.	F.	14	3 years	Hereditary. Two Aunts scoliotic	C	Left severe	Left mod.	—	Trace	—	72	Much improved	—
824	,, 5	E. C.	F.	11	3 years	Hereditary See Sister, No. 843 Delicate	C	Left mod.	Left mod.	Slight	Severe	—	96	Much improved	Mr. Liebreich
825	,, 9	W. B.	M.	6	—	Hereditary. Father scoliotic. See also Sister, No. 830	C	—	Left trace	—	Moderate	—	72	Much improved (confirmed 2½ years after)	Sir William Broadbent, Bart.
826	,, 11	J. P. S.	F.	6	1 year	Whooping cough	C	Left trace	Left mod.	—	Trace	—	72	Much improved (confirmed 1 year after)	Late Dr. A. Buck
827	,, 11	W. H.	F.	10¾	—	—	C	Left mod.	Left mod.	—	Moderate	—	72	Much improved	Dr. C. Chepmell (Brighton)
828	,, 12	E. B.	F.	11½	1½ year	Hereditary See Mother, No. 821	C	Left mod.	Left mod.	—	Severe	—	96	Much improved	—
829	,, 13	E. S.	F.	14	2 years	Hereditary. Maternal Grandmother and Great-aunt scoliotic	S	Right extreme	Left extreme	Severe	Moderate	Steel support	72	Much improved (confirmed 4 years after)	—
830	,, 16	E. B.	F.	10	—	Hereditary. Father scoliotic. See also Brother, No. 825	C	—	Left mod.	—	Trace	—	72	Much improved (confirmed 3 years after)	—
831	,, 21	F. J.	F.	15½	1 year	Hereditary. Mother and maternal Grandmother scoliotic	C	Right severe	Right mod.	Severe	Moderate	Steel support	72	Much improved	—
832	,, 27	C. W.	F.	9½	—	Hereditary See Sister, No. 46	C	Left mod.	Left mod.	—	Moderate	—	72	Much improved	Mr. H. Couling (Brighton)
833	,, 30	E. K.	F.	21	6 years	—	C	Left trace	Left mod.	Severe	Moderate	Plaster jacket	96	Much improved (confirmed 1 year after)	—
834	Dec. 3	N. D. W.	F.	24	4 years	Father 70 years at patient's birth	C	Left mod.	Left mod.	Mod.	Moderate	2 hours daily lying	72	Much improved (confirmed 4½ years after)	Mr. Alfred Scott (Brighton)
835	,, 14	M. S.	F.	27	15 years	—	C	Left severe	Left trace	Severe	Moderate	Steel support	72	Much improved (confirmed 2½ years after)	Dr. F. Gull (Coddenham)

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								Ribs Posteriorly.	Erectores Spinæ.						
836	1891 Dec. 16	H.M.W.	F.	14¾	2 years	Pneumonia	ↄ	Right severe	Right trace	Slight	Moderate	—	72	Improved (followed by relapse)	Mr. A. Scott (Brighton)
837	1892 Jan. 9	F. B.	F.	23	15 years	After pneumonia	C	—	Left mod.	Severe	Trace	—	72	Improved	Dr. Barnes (Carlisle)
838	,, 11	E. M. F.	F.	12	1½ year	Rapid growth	S	Left mod.	Right mod.	Slight	Trace	Massage	72	Much improved	Late Dr. Griffith (Brighton)
839	,, 11	M. B. Y.	F.	28	16 years	—	ƨ	Right extreme	Left severe	Severe	Trace	Steel and felt jackets and stays 16 years	72	Much improved (confirmed 5 years after)	—
840	,, 13	K. B.	F.	7½	—	Hereditary See Brother, No. 846	C	—	Left mod.	—	Moderate	—	96	Much improved (confirmed 1 year after)	Mr. R. J. Godlee
841	,, 13	A. S.	F.	16	3 years	Rapid growth —	C	Left trace	Left mod.	Slight	Trace	—	72	Much improved	Mrs. Scharlieb, M.D.
842	,, 14	I. M. R.	F.	34	20 years	—	C	Left mod.	Left severe	Severe	—	Steel support	72	Much improved (confirmed 3 years after)	—
843	,, 19	G. C.	F.	9⅓	½ year	Hereditary See Sister, No. 824	C	—	Left mod.	—	Moderate	—	48	Much improved	—
844	,, 22	B. D.	F.	13	—	Very delicate up to 7 years	ƨ	Right (above) trace, left (below) trace	Left mod.	—	Moderate	—	72	Much improved	—
845	,, 22	C. S.	F.	16	4½ years	Hereditary See Sister, No. 815, and Brother, No. 978	ƨ	Right severe	Left extreme	—	Moderate	Steel support 4 years	72	Much improved (confirmed 1 year after)	—
846	,, 22	M. B.	M.	5¼	—	Hereditary See Sister, No. 840	C	—	Left trace	—	Moderate	—	48	Much improved (confirmed 1 year after)	—
847	,, 26	E. A.	F.	15¾	—	—	C	Left trace	Left mod.	—	Moderate	—	72	Much improved	—
848	,, 27	G. C.	F.	11¾	—	Born in India 6 years there	C	Left mod.	Left mod.	Slight	Trace	—	72	Much improved	—
849	,, 29	E. S.	F.	17	½ year	Rapid growth Hereditary Mother scoliotic	C	Left mod.	Left mod.	—	Trace	—	72	Much improved	—
850	,, 29	E. I. M.	F.	15	1 year	After influenza	C	Left mod.	Left trace	Severe	Trace	—	72	Much improved	Dr. Ingleby Mackenzie
851	Feb. 2	S. K.	M.	10	—	Very delicate	C	—	—	—	Moderate	—	24	Much improved (confirmed 1 year after)	—

852	Feb. 3	N. S.	F.	16	1 year	Violin playing	C	Left mod.	Left mod.	—	Trace	—	72	Much improved (confirmed 1 year after)	Dr. Duke (Clapham Common)
853	,, 5	E. R. K.	F.	12¾	3 years	Always delicate	S	Right mod.	Left trace	—	Trace	Steel support	72	Much improved (confirmed 1 year after)	—
854	,, 5	L. S.	F.	11	9 years	Hereditary Mother scoliotic	S	Left extreme	Right mod.	—	Moderate	Spinal support several years	72	Improved	Dr. A. H. Dodd (Brighton)
855	,, 6	L. R.	F.	15¼	2 years	Always delicate Rapid growth	S	Right severe	Left mod.	—	Moderate	6 hours daily lying	72	Much improved	Dr. A. Cash (Torquay)
856	,, 6	H. S. G.	M.	14	3 years	—	C	Left mod.	Left mod.	—	Trace	—	24	Much improved	Dr. R. Hughes (Brighton)
857	,, 10	K. P.	F.	16	4 years	Rapid growth	C	Right mod.	Left mod.	—	—	—	72	Much improved (confirmed 3½ years after)	—
858	,, 12	T. W.	F.	17¼	2 years	Delicate	C	Right mod.	Left mod.	Extreme	Moderate	Steel support	72	Improved (followed by relapse in pain)	Dr. Lewis (Henfield)
859	,, 12	P. S.	F.	14	2 years	Scarlet fever	C	—	Left mod.	Mod.	Severe	—	72	Much improved (confirmed 1 year after)	Dr. Uhthoff (Brighton)
860	,, 19	M. M. S.	F.	18	2 years	Influenza	C	Left mod.	Left mod.	—	Moderate	—	36	Much improved	Dr. Buxton Shillitoe
861	,, 24	M. C. B.	F.	10½	5 years	Hereditary See Mother, No. 821, and Sister, No. 828	C	Left mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	Mr. John Tweedy
862	,, 24	A. F.	F.	14	2 years	Rapid growth Whooping cough Hereditary See Brother, No. 884	S	Right mod.	Left mod.	Severe	Severe	—	72	Much improved	Dr. Henry B. Falconar (Oppidan Road, N.W.)
863	,, 25	H. L.	M.	15⅝	—	Hereditary See Sister, No. 659	S	Right trace	Left mod.	—	Severe	—	72	Much improved	—
864	,, 26	S. D. B.	F.	17	3 years	Rapid growth	S	—	Left mod.	—	Moderate	—	63	Much improved	Dr. A. T. Schofield
865	,, 27	N. T.	F.	10	2 years	Hereditary See Sisters, Nos. 868 and 876	S	Right trace	Left mod.	—	Moderate	Massage	72	Much improved (confirmed 4½ years after)	—
866	,, 27	K. G.	F.	20	5 years	Hereditary See Sister, No. 796, and Mother, No. 885	S	Left (above) trace, right (below) mod.	Left mod.	—	Severe	—	72	Much improved (confirmed 1 year after)	—
867	Mar. 1	I. W.	F.	11	3 years	—	S	Right trace	Left mod.	—	Severe	—	36	Improved	—
868	,, 1	O. T.	F.	12	—	Hereditary See Sisters, Nos. 865 and 876	C	Left trace	Left mod.	—	Moderate	—	72	Much improved (confirmed 4½ years after)	—
869	,, 1	E. B.	F.	13½	1 year	Rapid growth	C	Left mod.	Left severe	Slight	Trace	—	72	Much improved (confirmed 2½ years after)	Dr. Uhthoff (Brighton)
870	,, 4	K. H.	F.	14½	2 years	—	S	Right (above) trace, left (below) severe	Right trace	Mod.	Moderate	Spinal support	72	Much improved (confirmed 2 years after)	Mr. R. J. Godlee

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								Ribs Posteriorly.	Erectores Spinæ.						
	1892														
S71	Mar. 4	K. S.	F.	22½	6 years	Rapid growth	S	Right trace	Left trace	Severe	Moderate	—	36	Much improved	—
S72	,, 9	V. A.	F.	11	5 years	—	S	Right trace	Left mod.	—	Moderate	Steel support 3 years	48	Improved	—
S73	,, 10	A. C. M.	F.	16	4 years	—	S	Right trace	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 1 year after)	—
S74	,, 10	I. H.	F.	12	4 years	Delicate	S	Right trace	Left mod.	—	Severe	5 hours daily lying	72	Much improved	—
S75	,, 16	H. M. B.	F.	14	2 years	Hereditary Eldest Sister scoliotic	S	Right trace	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
S76	,, 18	E. T.	F.	13¾	—	Hereditary See Sisters, Nos. 865 and 868	S	—	Left mod.	—	Moderate	—	61	Much improved (confirmed 1 year after)	—
S77	,, 23	M. H.	F.	14	4 years	Very delicate	S	Right mod.	Left severe	—	—	6 hours daily lying	24	Improved (under Dr. Harper)	Dr. C. J. Harper (Finchley)
S78	,, 23	G. M.	F.	23	1 year	—	S	Right trace	Left mod.	—	Trace	Spinal support	72	Much improved (confirmed 1½ year after)	—
S79	,, 24	B. E. C.	F.	15¾	4 years	Born in Ceylon	S	Right trace	Left severe	Severe	Moderate	Felt jacket	72	Much improved (confirmed 3 years after)	—
S80	April 2	W. B.	F.	3⅔	—	Hereditary Mother scoliotic, also Sister, see No. S81	C	—	Left trace	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
S81	,, 2	H. B.	F.	6¾	—	Hereditary See Sister, No. S80	C	Left mod.	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
S82	,, 2	S. B.	M.	7½	—	Mother also scoliotic Always delicate Hereditary See Sisters, Nos. 666 and 671	C	Left trace	Left severe	—	Trace	—	72	Much improved	—
S83	,, 4	M. M.	F.	16⅓	3 years	—	S	Right mod.	Left mod.	—	Severe	—	72	Much improved (confirmed 2 years after)	Surgeon-Col. Dr. Maunsell
S84	,, 5	A. F.	M.	11	3 years	Hereditary See Sister, No. 862	C	Left trace	Left mod.	—	Trace	—	72	Much improved	—
S85	,, 7	Mrs. G.	F.	57	46 years	Delicate	S	Right severe	Left severe	Severe	—	Steel supports 8 years	72	Much improved (confirmed 1 year after)	—

886	April 8	M. U.	F.	9	4 years	Whooping cough	C	Left trace	Left mod.	Mod.	Moderate	—	72	Improved	Dr. T. Barlow and Mr. R. J. Godlee
887	,, 8	K. H.	F.	20	8 years	—	S	Right severe	Left severe	Severe	Moderate	Steel support 3 years	72	Much improved (confirmed 3 years after)	—
888	,, 11	G. K.	M.	9	—	Always very delicate	S	Right (above) severe, left (below) mod.	Left severe	—	Moderate	—	72	Much improved (confirmed 3 years after)	Dr. T. Barlow
889	,, 11	M. B.	F.	12¾	2 years	Rapid growth	S	Right mod.	Left extreme	—	Moderate	—	72	Much improved (confirmed 1 year after)	Dr. Turtle (Woodford)
890	,, 11	J. C.	F.	17	—	Hereditary Mother and maternal Aunt scoliotic See Sisters, Nos. 922 and 968	S	Right mod.	Left mod.	Slight	Moderate	—	72	Much improved (confirmed 1 year after)	—
891	,, 13	R. R.	F.	26	13 years	Rapid growth	C	—	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
892	,, 19	A. M.	F.	27	1 year	—	C	—	Left mod.	Extreme	—	Felt jacket	72	Much improved (confirmed 1¾ year after)	Dr. Collins (Shirley, Southampton)
893	,, 20	B. C.	F.	15	—	Hereditary See Sisters, Nos. 269 and 901	C	Left severe	Left mod.	Slight	Severe	—	72	Much improved (confirmed 4 years after)	Dr. B. Watson (Tufnell Park)
894	,, 20	J. J.	F.	9¾	—	—	C	Left trace	Left mod.	—	Moderate	2 hours daily lying	72	Much improved (confirmed 4 years after)	—
895	,, 25	E. F. D.	F.	12¾	¾ year	Delicate	C	Right *anteriorly* severe, left trace	Left mod	—	Moderate	—	72	Improved	Dr. H. Shackleton (Sydenham, S.E.)
896	,, 26	P. R.	F.	19	½ year	—	C	—	—	Severe	Moderate	—	24	Improved	—
897	,, 29	M. W.	F.	25	5 years	Hereditary Cousin scoliotic	C	Left mod.	Left severe	Severe	Trace	—	72	Improved	—
898	May 1	E. F. B.	F.	17	½ year	After typhoid fever	C	Left mod.	Left mod.	Mod.	Moderate	Spinal support	72	Much improved (confirmed 2 years after)	—
899	,, 3	A. G.	F.	15¾	4 years	—	S	Right severe	Left severe	—	Trace	Felt jacket	72	Much improved (confirmed 2 years after)	Mr. C. J. Symonds
900	,, 3	E. L. W.	F.	16	3 years	—	S	Right severe	Right severe	Slight	Moderate	1 hour daily lying	72	Much improved (confirmed 2½ years after)	Dr. J. C. Wood (Surgeon, R.N.)
901	,, 3	M. C.	F.	11	—	Hereditary See Sisters, Nos. 269 and 893	C	Left mod.	Left mod.	—	Severe	—	72	Much improved (confirmed 1 year after)	—
902	,, 4	G. C.	F.	12	—	Hereditary. See Sisters, Nos. 95 & 105	S	Left trace	Right trace	—	Severe	—	72	Much improved	Dr. Dyce-Brown

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	1892														
903	May 5	M. W.	F.	17	6 years	7 months' child Always delicate	C	Left mod.	Left severe	—	—	—	72	Improved	—
904	,, 5	E. R.	F.	6½	—	—	C	Left trace	Left mod.	—	Moderate	Massage	120	Much improved (confirmed 3 years after)	Dr. T. Barlow
905	,, 6	E. M. H.	F.	15	2 years	Rapid growth	C	Left mod.	Left severe	Severe	Moderate	--	86	Much improved	—
906	,, 6	M. R.	F.	15	2 years	Delicate	C	Right extreme	Left mod.	—	Moderate	Steel support 2 years	72	Much improved	—
907	,, 6	N. L. H.	M.	11¼	—	Infantile paralysis	C	Left trace	Left trace	—	—	—	76	Much improved	Dr. Thos. Fawsitt (Oldham)
908	,, 7	B. W. S.	M.	15½	—	Always delicate Mother 40 years old at birth	C	Left trace	Left mod.	—	Severe	—	72	Much improved (confirmed 1 year after)	Sir Douglas Powell, Bart.
909	,, 9	D. W. T.	F.	7¾	—	Hereditary See Sister, No. 919	C	Left trace	Left trace	—	Moderate	—	72	Much improved (confirmed 4 years after)	Dr. T. Barlow
910	,, 9	K. J.	F.	15	2 years	Hereditary See Sister, No. 911 Born in India, and living there half her life	S	Right mod.	Left mod.	—	Moderate	—	72	Much improved	—
911	,, 9	F. L. J.	F.	10	—	Hereditary See Sister, No. 910 Born in India	C	Right trace	Right mod.	Slight	Moderate	—	72	Much improved	—
912	,, 9	J. J.	F.	20	7 years	Hereditary Mother scoliotic	S	Left (above) mod., right (below) severe	Left severe	Severe	Trace	Steel support 7 years	72	Improved	—
913	,, 13	E. N.	F.	17	5 years	—	S	Right severe	Left severe	—	Severe	Massage	72	Much improved (confirmed 2 years after)	Dr. Morrison (Hartlepool)
914	,, 14	S. H. M.	M.	19	6 years	Rapid growth	S	Right mod.	Left mod.	—	—	—	12 weekly	Much improved	—
915	,, 16	F. M. T.	F.	14	¼ year	Hereditary See Sister, No. 923 Rapid growth	C	—	Left trace	—	Severe	—	72	Much improved	—
916	,, 18	I. B.	F	16	2 years	—	C	Left trace	Left mod.	—	Moderate	—	72	Much improved	—
917	,, 18	D. B.	F.	9	—	Hysterical	C	—	—	—	Moderate	—	72	Improved (followed by relapse)	Dr. Stanley Smith

918	May 18	E. B.	F.	15	—	Hereditary See Sister, No. 986 Rapid growth	C	Left trace	Left mod.	Severe	Severe	2 hours daily lying	80	Much improved (confirmed ¾ year after)	—
919	,, 19	M. T.	F.	14	—	Hereditary See Sister, No. 909	C	—	Left trace	—	—	—	24	Much improved (confirmed 1 year after)	—
920	,, 19	F. O. A.	F.	13	5 years	Hereditary See Sister, No. 921 Rapid growth	S	Right mod.	Left mod.	—	Moderate	1 hour daily lying	72	Much improved (confirmed 1½ year after)	Dr. Nankivell (Bournemouth)
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924	,, 24	M. M.	F.	15	4 years	Violin playing	S	Right mod.	Left severe	—	—	Steel support	72	Much improved	—
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No.	Date.	Patient.	Sex	Age brought to Author.	Duration of Scoliosis.	Cause of Scoliosis.	Description of Scoliosis.	Osseous Deformity.		Pain.	Flat-Foot.	Previous Treatment.	No. of visits under Author's Treatment.	Result of Author's Treatment.	Sent to Author by
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967	Oct. 1	O. A.	F.	15	4 years	Always delicate	S	Right trace	Left mod.	—	Trace	—	72	Much improved	Dr. Renner
968	,, 3	E. C.	F.	20	¼ year	Rapid growth Hereditary See Sisters, Nos. 890 and 922	C	Left trace	Left severe	—	Moderate	—	72	Much improved	—
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No.	Date.	Patient.	Sex	Age brought to Author.	Duration of Scoliosis.	Cause of Scoliosis.	Description of Scoliosis.	Osseous Deformity.		Pain.	Flat-Foot.	Previous Treatment.	No. of visits under Author's Treatment.	Result of Author's Treatment.	Sent to Author by
								Ribs Posteriorly.	Erectores Spinæ.						
	1892														
970	Oct. 3	M. S.	F.	7¾	1 year	Born in India	C	Left trace	Left mod.	—	Trace	—	72	Much improved	—
971	,, 7	N. C. B.	F.	36	25 years	—	S	Right extreme	Left severe	Severe	Moderate	Steel and plaster supports	72	Much improved (confirmed 1½ year after)	—
972	,, 7	P. C.	F.	6½	1 year	Rapid growth	C	—	Left mod.	—	Moderate	Daily lying 3 hours	72	Much improved	—
973	,, 10	M. B.	F.	13	1 year	Rapid growth	S	Right severe	Left severe	Slight	Moderate	Daily lying 2 hours	83	Much improved (confirmed 1½ year after)	Dr. G. C. Franklin (Leicester)
974	,, 11	L. L.	F.	12½	—	Always delicate	C	Left mod.	Left mod.	—	Severe	—	86	Improved	Dr. Uhthoff (Brighton)
975	,, 12	M. T.	F.	22	10 years	Always delicate	C	Left mod.	Left mod.	Severe	—	—	72	Much improved	—
976	,, 17	M. M.	F.	8	—	After pneumonia	C	Left trace	Left mod.	—	Severe	Felt jacket	96	Much improved	—
977	,, 17	A. J.	F.	17	2 years	—	C	Left trace	Left severe	—	—	Daily lying 1 hour	72	Much improved	—
978	,, 18	C. S.	M.	9	5 years	Born in India Hereditary See Sisters, Nos. 815 and 845	C	—	Left trace	—	Moderate	Steel support 4 years	72	Much improved (confirmed 1½ year after)	—
979	,, 19	E. S.	F.	17	2 years	Rapid growth	S	—	Left trace	Severe	Moderate	—	24 under Dr. Bodman	Improved	Dr. Bodman (Bristol)
980	,, 20	E. M. W.	F.	14	1½ year	After scarlet fever Hereditary See Sister, No. 990	S	Left (above) mod., right (below) (severe)	Left mod.	Slight	Trace	Massage	72	Much improved (confirmed 3 years after)	Dr. Shoppé
981	,, 21	U. M.	F.	13	—	Very delicate Hereditary Mother scoliotic	C	Left mod.	Left mod.	—	Moderate	—	48	Improved	—
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984	,, 31	M. R.	F.	15	1 year	—	C	Left mod.	Left severe	Severe	Moderate	7 lb. clubs	72	Much improved	—
985	,, 31	M. S.	F.	13	—	Violin playing	S	Right mod.	Left mod.	—	Moderate	Massage	72	Much improved (confirmed 1½ year after)	—

986	Nov. 3	W. B.	F.	17	—	Hereditary See Sister, No. 918 After chorea	C	Left mod.	Left mod.	Severe	Moderate	—	72	Much improved	—
987	,, 4	L. L.	F	12	2 years	—	C	Right *anteriorly* mod.	Left trace	—	Moderate	2 hours daily lying	96	Much improved	—
988	,, 4	E. W.	F.	14	1½ year	Always delicate	C	Left mod.	Left severe	—	Moderate	—	79	Much improved (confirmed 1 year after)	—
989	,, 5	E. P.	F.	15	—	Hereditary See Sister, No. 949	C	—	Left mod.	Slight	—	—	24	Much improved	—
990	,, 8	E. M. W.	F.	13¼	1 year	Hereditary See Sister, No. 980	S	Right trace	Left mod.	—	Moderate	—	72	Much improved	—
991	,, 8	C. H. H.	F.	12	¼ year	Rapid growth	C	—	Left mod.	—	Moderate	—	72	Much improved (confirmed 1 year after)	—
992	,, 9	M. G.	F.	8	1½ year	—	C	Left severe	Left mod.	—	—	2 hours daily lying	72	Much improved	—
993	,, 9	H. A. M.	F.	17	6 years	—	C	—	Left mod.	Severe	Moderate	1 hour daily lying	72	Improved	Dr. Dyce-Brown
994	,, 11	H. C. A.	F.	21	10 years	Always delicate	S	Right severe	Left severe	Severe	—	1 hour daily lying	96	Much improved (confirmed 4 years after)	Dr. Mary Scharlieb
995	,, 12	F. H.	F.	8	—	—	C	Left trace	Left mod.	—	Trace	—	40	Improved	Mr. S. J. Hutchinson
996	,, 13	H. C.	F.	12	—	—	C	Left trace	Left mod.	—	Trace	—	72	Much improved	—
997	,, 14	E. M. S.	F.	21¾	9 years	Asthma	S	Left (above) trace, right (below) severe	Left severe	Severe	—	Steel and felt supports 5 years	72	Much improved (confirmed 1 year after)	—
998	,, 17	E. S.	F.	21	5 years	—	C	—	Left trace	Severe	—	—	72	Much improved	Mr. C. Oldham (Brighton)
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